The Journal of the South Carolina Medical Association

Vol. VI. Charleston, S. C., November, 1910. Number 11.

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Cor. Queen and Franklin Sts., Charleston, S. C.

The Journal of the South Carolina Medical Association.

Published Every Month Under the Direction of the Board of Councilors.

OFFICE OF PUBLICATION, CHARLESTON, S. C.

Application for second-class matter at Charleston, pending.

ANNUAL SUBSCRIPTION, $2.00. **J. C. SOSNOWSKI, Editor.**

VOL. VI. NOVEMBER, 1910. No. 11

The Journal is published monthly under the auspices of the South Carolina Medical Association. Original Articles are solicited. Members who do not receive their copies will please notify the Editor. Correspondents and Secretaries of County Societies are urgently requested to send reports of their meetings, and items of news that may be of interest to the profession, to the Editor. All articles should be typewritten. Illustrations sent with articles will be printed. For prices of reprints see advertising pages.

All matters must be in the hands of the Editor by the 5th of each month.

Proofs of all Original Articles appearing in the Journal are revised and corrected by their authors. The Journal is in no sense responsible for expressions in Original Articles.

Business communications relating to subscriptions and advertising should be addressed to

JOURNAL S. C., MED. ASS'N., CHARLESTON, S. C.

THE PSYCHOLOGY OF PELLAGRA.*

By J. W. Babcock.

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Recognizing our inexperience in dealing with many phases of the pellagra problem, we must admit for some time to come our dependence upon European writers for authoritative descriptions of the mysterious malady. Hence I shall, for the second section of this paper, confine myself almost entirely, to reviewing and quoting from articles and monographs upon the mental symptoms of the disease that have been written by Italian, German, French, and English observers

In the admirable description of pellagra given by Copland (9), it is stated that: "The nervous system presents remarkable disturbance, and the manifestations of the mind are more or less disordered. The pellagrosi complain of a sense of heat in the head and spinal cord; of tingling and darting pains in the course of the nervous system, of heat in the limbs, palms of the hands and particularly, in the soles of the feet; of great weakness of the limbs, with trembling when attempting to stand and sometimes of contractions of the lower limbs. Their looks become sombre and melancholy. Ennui, depression of spirits, and mental imbecility increase with the progress of the malady. Dr. Holland states that the pellagrosi afford a melancholy spectacle of physical and moral suffering at this period. They seem under the in-

*The second part of a paper entitled "The Prevalence and Psychology of Pellagra" and read before the Am. Med. Psycholog. Assoc. at Washington, D. C., May 5, 1910. The first part appeared in this Journal Sept. 1910.

fluence of an invincible despondency, they seek to be alone, scarcely answering questions put to them; and often shed tears without obvious cause . Their faculties and senses are impaired and the disease when it does not carry them off from exhaustion of the vital powers, generally leaves them insensible idiots, or produces attacks of mania, soon passing into utter imbecility or idiocy."

Hack Tuke studied pellagra in Italian asylums in 1865. He says (10): "The patients were in an advanced stage of the disease, and were all more or less emaciated, sallow, anemic, and presenting a miserable dry wrinkled skin. They were obtuse and inert, their mental state being that of dementia, quiet, chronic mania; or, in some instances, chronic melancholia. None of them were in an acute maniacal condition."

The views of Salerio (11), director of the asylum of San Servolo, Venice, upon the mental condition of his patients, may thus be summarized: They are generally frightened; think they are persecuted, or possessed with the devil, suspicious, refuse food and medicine, and have exalted religious notions. Suicidal tendencies may be present. Homesickness is common and severe. Finally, they are liable to lapse into dementia, paralysis, or tubercular diseases.

Bucknill and Tuke (12) quote also from an early work of Lombroso, who thought that the one characteristic of pellagrins, sane or insane, was a greater moral impressionability. A slight insult, the threatening of some trival danger completely carries them away. If pellagrous insanity assumes a type, it approaches rather that of chronic mania and dementia than that of monomania. A real or apparent stupidity, an obstinate mutism, is tolerably common, which Lombroso, ingeniously terms "psychical catalepsy." But, as a rule, their insanity is of a misty, ill defined, contradictory character, like that produced by old age, or by anemia, and differing in this point from general paralysis.

Morselli (13) gives four forms of pellagrous insanity, viz., supra-acute pellagra (typhoid pellagra), pellagrous melancholia, pellagrous dementia, and pellagrous pseudo-general paralysis.

Babes & Sion (14) say in part:

"Usually after several years of somatic pellagra, psychical symptoms come into prominence. At first the patients experience mental weakness. The peculiar pellagrous lunacy is preceded by spasmodic, then tonic, cramps and generally bodily weakness, and advances to a true pellagrous paralysis. The cramps of feet, hands and calf muscles are sometimes so violent that they may result in epilepsy, contractions and swooning. So-called pellagrous epilepsy occurs as the result of spinal pain, the patient being drawn backwards. An important condition called pellagrous tetanus has been described by Strambio, opisthotonos, being a common characteristic symptom. Sometimes the patients are drawn forward and fall to the ground. Choreiform movements especially in the head, are observed. Generally from the incipiency of the disease, depression and weakness of the memory are noted. Rousel asserts that in this stage deliria do not appear, but that they come on in the spring of the second or third year. The sadness may advance to mutism and refusal of food, these conditions being often interrupted by lachrymose or maniacal or suicidal episodes. An acute attack leaves the patient exhausted, depressed and hypochrondriacal. Such attacks recur annualy at about the same time, the intellect weakens, and gradually dementia develops.

"Pellagrous melancholia shows various stages: at first, there are psychic impediments followed by apathy or stupor. Delusions of sin, of persecution, etc., appear. Mania is rare, but catalepsy sometimes occurs.

"When paralysis supervenes, euphoria

appears, presenting a disease-complex like general paralysis, but even in advanced stages of the disease remissions may occur."

G. Antonini (15) writes:

"Already in the first stages of pellagra there appears a decided modification in the mental faculties; there is a great impressionability, a greater psychical excitability, a slight disappointment depresses greatly the tone of feelings, or produces excessive reactions (from want of initial inhibitory powers). In the progress of the disease, we can have true amentia,* states of mental confusion common to all psychoses arising from exhaustion. This state can show suddenly an aggravation of symptoms and lead to death with a syndrome of acute delirum (typhoid pellagra) and yet it can also present in certain cases a true progressive paralysis of pellagra.

"But a frequent symptom is the obstinate refusal to take food, such as aggravates painfully the already sad picture of the pellagrin."

Griesinger notes (16) that pellagrous insanity, according to Clerici (1855) consists chiefly in a vague, incoherent delirium, accompanied by stupor, loss of memory, and by loquacity without special disorder of intelligence, or violent excitement; the melancholic state, which predominates for a long time, always passes gradually into a state of torpor of all the mental powers, with muscular weakness, which greatly resembles general paralysis.

Mongeri (17) concluded that the pellagrous psychoses begin, ordinarily, with a period of mental depression accompanied by hypochondriac ideas. Following great mental prostration, the ideas become confused. Later melancholia appears acompanied by hallucinations of hearing, with illusions of general sensibility. Following this condition are delusions of persecution with a tendency to drowning (the hydromania of Strambic.) Again developing persecutory paranoia, pellagrins commit crimes of every sort, homicides, infanticide, incendiarism, etc.) Dementia is the common termination.

We will next quote from Bianchi, (18) one of the leading modern Italian writers on mental diseases.

"The nervous phenomena dominate the scene in pellagra. We may classify the different varieties in two groups: The chronic and the acute. The first is characterized by general depression, melancholia, confusion, slow dementia, paresthesias and ataxic gait. Contractures and subsulti are absent, although in most instances, the reflexes are exaggerated. In the acute form, we have elevation of temperature 39 degrees to 41 degrees C.; intense neuromuscular excitement, subsulti, contractures, muscular rigidity exaggerated reflexes and confusion with phases of exaltation. There are numerous intermediate forms in which we observe a great variety of psychical phenomena, and also alternations of excitement and depression. Phases of remission and of apparent recovery are observed, especially at certain seasons."

Regis (19) announces, that, "It is recognized that the most common form of psychosis in pellagra is mental confusion with melancholy, or dreamy delirium. This occurs more or less marked in most cases. It is manifested by an inertia, a passivity, an indifference, a considerable torpor; by insomnia, hallucinations often terrifying, both of sight and hearing; by delirious conceptions, with fixed ideas of hopelessness, of damnation, of fear, anxiety, persecution, poisoning, of possession of devils and witches, of refusal of food, and so marked a tendency to suicide, and to suicide by drowning that Strombio gave it the name of hydromania. This melancholy depression, which can reach, in certain cases, even to stupor, is always based upon

*The Continental writers use "amentia" in the sense of an acute confusional insanity.

a foundation of obtusion, of intellectual hebetude, and of considerable general debility, which becomes permanent and terminates by degrees in dementia, in proportion as the pellagrous cachexia makes new progress. It is accompanied sometimes by a polyneuritis. The mental confusion of pellagrins can, in place of changing directly into dementia, turn to a chronic mental confusion.

"One may also observe in pellagra, as in every chronic grave intoxication, a morbid state resembling general paralysis, (pellagrous pseudo-general paralysis). This occurs especially in the cases where, instead of habitual melancholy ideas, the patients present ideas of satisfaction and of wealth."

Procopiu (20) discusses the subject at length, saying in part: "We have seen that the character and intelligence of pellagrins change. They become sad, apathetic, silent: in the more advanced stage they are melancholy, and fall sometimes into absolute mutism, or respond with difficulty, and have the air of not understanding what is said to them.

"Sometimes this melancholy is accompanied with stupor, and leads the poor pellagrins into dementia.

"It is not rare in this condition, that an attack of acute mania breaks out. At another time, the attack of mania breaks forth suddenly without apparent cause, or under the influence of a sunstroke, a quarrel, a disappointment, etc.

"Sometimes it is in the Spring that the excitement, as the other symptoms of pellagra, makes its appearance, but generally it is later than the others, and bursts forth at the end of the season, or even during the summer.

"Pellagrous insanity has been divided into acute and chronic forms.

"The acute form is more frequent when the pellagra is associated with alcoholism, then this form presents the characters of delirium tremens. The acute form often manifests itself in the course of the chronic form, but it can also begin in the state of apparent health.

"The acute insanity in particular which bursts out suddenly while the patient is in a state of mental health, is easy enough to cure. But when the disease is advanced, and the lesions of the nerve centers are profound, cure is difficult, sometimes impossible, especially in the case of dementia. When even a sensible amelioration is obtained, the intellectual condition of the patient remains always in a marked degree of inferiority."

From the more recent treatise of Tanzi (21) we learn that "Pellagra is almost always accompanied by psychical disturbances, which often have the character of true mental diseases.

"A pellagrous melancholia and a pellagrous mania have been described. The characteristic psychosis of pellagra is, however, amentia, which manifests itself acutely in loss of sense of place, loss of memory, confusion, hallucinations, and paresthesias, from which there arise morbid impulses and delusions. Pellagrous amentia often assumes a depressive form, which simulates melancholia; and in some cases, either from time to time, or throughout the whole course of the psychosis, it is accompanied by exaltation, which gives it some resemblance to mania.

"The first attack of amentia occurs after pellagra has existed for some years, and has already given rise to erythema, and diarrhoea, and has remitted from time to time. In other words, the pellagrous lunatic is, as a rule, a chronic sufferer from pellagra. But whilst the pellagra, although chronic, continues to run an intermittent course, the mental disturbances associated with it have the characteristics of an acute insanity, which corresponds exactly to amentia—i. e., to the most typical of the acute insani-

ties, both as regards the symptoms and course.

"The insanity of pellagra is thus something different from common melancholia, or from ordinary mania. It is also something more than simple amentia. We may regard it as the combination of two distinct clinical pictures, namely, that of amentia in the first attacks, and that of dementia in the later and progressive phase, marked by chronic and incurable cachexia. It is an intermittent and progressive amentia, which, if not cured or if not early fatal, terminates in dementia."

What is the relationship of pellagra to progressive paralysis? Baillrager asserts that pellagra may be followed not only by mania and melancholia, but also by progressive paralysis. Verga opposes the last opinion, while Regis and Pianetta affirm it. (Gregor)

Gregor (22) in 1907, recognizing that exhaustive clinical observations on the so-called mental disturbances of pellagra were wanting, made careful analyses of the psychic condition observed in 72 cases, who had been admitted to the Bukowina State Asylum from March, 1904, to September, 1905. In 1902, he says Finzi published his "Psicosi Pellagrose," coming to the conclusion that this mental disturbance is essentially an insanity, and that the psychosis of pellagra is amentia. This view, which agrees with that of Tanzi was combatted by Vedrani, who maintains that the psychosis of pellagra takes usually its course without serious disturbances of orientation and reason. On the other hand, Warnock (23) claims that symptoms of melancholia are the usual accompaniments of the mental disturbances in pellagra, and thus approaches the views of the older writers, who assume especially close relations between pellagra and melancholia. Thus Aubert tried to prove in 1858 that an attack of pellagra might convert an heterogenous disease into melancholia. This view was vigorously maintained by Aubert against Baillarger and others, who held that the psychoses of pellagra are polymorphic, including meningitis, mania, melancholia, etc. and even general paralysis. This view is still maintained notably by Zletarovic, who has observed the development on the basis of nutritive disturbances caused by pellagra of melancholia and mental weakness to complete stupor and dementia, but he never observed mania. Even Lombroso and Tuczek, says Gregor, give only pictures of psychical conditions. Gregor also considers the studies of pellagrous insanity by Finzi and Vedrani as inadequate. But granting the absence of a characteristic symptom-complex, he says that we must still search for characteristic peculiarities, since psychoses, which are in themselves not specific, may assume certain symptoms, which are to be considered with regard to their etiology.

Gregor also includes in his study whether the relationship between pellagra and the psychoses was accidental or causal. It will thus appear that he attempts to reach a much broader and deeper conception of the neuroses and psychoses of pellagra. He divided his 72 cases into seven groups: (1) Neurasthenia, (2) Acute Stuporous Dementia, (3) Amentia (Acute Confusional Insanity) (4), Delirium Acutum, (5) Katatonia, (6) Anxiety Psychosis, and (7) Manic-Depressive Insanity.*

*In Stoddart's recent work, (24) these varieties of exhaustion psychoses are recognized:

1. The depressive form (associated with motor restlessness).
2. The excited form (Exaltation always with motor excitement).
3. The Stuporose from. (The patients are quiet and rigid, the rigidity affecting the trunk and limbs, and they have terrifying hallucinations, and consequently are in a state of extreme depression).
4. A form of "collapse delirium" as recognized by Kraepelin.
5. The katatonic form of dementia precox.
6. There is also an intermittent form of psychosis tending to dementia.

Gregor analyses most of his cases at length, finally summarizing the symptoms he had observed.

I. NEURASTHENIA. (SEVEN CASES).

The symptoms of Gregor's first group in their details are not specific of pellagra, but offer in their totality a characteristic disease picture.

The symptoms are subjective and include headache, pain in the gastric region, vertigo, paresthesias, lassitude, depression, a sense of unrest and anxiety, which may be raised to a phobia, as well as ill-defined apprehensions. There is also a sense of bodily and mental incapacity, and of illness. Their conduct is normal, and the intellect may be unimpaired, but they are incapable of mental and physical exertion. The process of association is distinctly disturbed, the simplest question often being answered only after prolonged hesitation. With depression of spirits, hypochondriac notions may develop from a consciousness of being pellagrous, or from experience in former illnesses. In some cases there is a slight motor unrest, and a desire to move about, but as a rule patients of this group labor under motor impediment, and sink finally into a condition of apathy and resigned inactivity. Gregor admits that these symptoms are not specific of pellagra. But he suggests that, if these symptoms have lasted for several years, the suspicion of pellagra as a causative factor, should be aroused in the physician's mind, even without the presence of the somatic stigmata of the disease. He also observes that the first attack of pellagra is more likely to be accompanied by neurasthenia and that this condition commonly preceded the development of the other pellagrous psychoses.

II. ACUTE (STUPOROUS) DEMENTIA. (TEN CASES).

The milder cases of this group differ from the preceding group only in degree. The symptoms merely suggested in the former group exist here in full force. The cases of this group are characterized by a distinctly marked stupor, tending to remissions, by deep mental depression, a vivid sense of insufficiency and peculiar subjective troubles. The dependence upon pellagra intoxication can be established by the close connection of the psychic disease-picture with the somatic symptoms of pellagra. The mental symptoms improve with the bodily. The external appearances, the depressed mental condition, the tendency to suicide, etc., explain the fact that such cases are frequently considered melancholia. Finzi contradicts this view, and places these cases under amentia. Some of Tanzi's and Vedrani's cases also come under this group.

The patients give the impression of being ill, as they lie still and apathetic in bed for weeks, and answer repeated questions only after a painful effort, or not at all. Requests of the simplest nature are carried out only with hesitation and effort, and often the action once begun is interrupted in its first phase, or the request is forgotten. Mostly we are assured that the patients are well oriented, and often we see after the hesitation ceases, that the psychic activity is revived for a short time, but sometimes in the height of the disease orientation may also be disturbed. Illusions appear, the patients show a sense of insufficiency, and sometimes also a hypochondriacal sense of sickness, and a consciousness of their psychic impediments.

In many cases in which the stupor developed gradually, a disturbance of psycho-motor activity was observed without vivid mental disturbances. On the other hand, some cases, recognizing their incapacity for practical life, voluntarily commited themselves to the asylum. Most cases showed a gradual development of an affectless stupor,

with a final return to their former mental condition. Rarely psychic impediments develop in a relatively short time. The sense of insufficiency may assume a distinctly melancholic coloring, with suicidal tendencies. Again severe cases may assume temporarily katatonic symptoms of posture and motion stereotypies.

With this group, memory disturbances were especially well marked, as Tanzi has emphasized, but weakness of memory is not a characteristic of acute pellagrous dementia. Upon convalescence memory returns easily, so that the apparent memory disturbance is due rather to the general difficulty of performing psychical processes than to weakness.

With the relief of the somatic symptoms of acute pellagra, the mental symptoms also improve. Besides the connection between pellagra and nervous disturbances is evident, and different mental symptoms may complicate the picture. It would appear that melancholia is the typical mental disturbance of pellagra. Tanzi believes that we should call such cases amentia. and consider them slight forms of this psychosis. It is in this group that Tanzi would place the typical cases of pellagrous insanity. Stupor seems to promise a long duration, and an unfavorable prognosis. Favorable cases lasted from one to six months.

III. AMENTIA (ACUTE CONFUSIONAL INSANITY). (THIRTY-TWO CASES).

These cases were long continued with a tendency to remissions and intermissions. After a prolonged period, which shows essentially the symptoms of the first group, appear usually terrifying hallucinations, accompanied by violent motor excitement. The delirium was frequently followed by stupor, or existing stupor was interrupted by delirium. The patients see the house or village burning, enemies coming, wild animals attacking them, the devil appears, or machines cut off their heads. More rarely, they have quiet dreamy states, the heavens open and the Lord appears, bishops, priests, figures, etc. pass by. In imagination they return to the scenes of their daily life. Again, they run away to escape the flames, or to defend themselves against persecution Here we have phenomena of motion in connection with hallucinations. If secluded, they move about, are noisy and knock upon the door. The duration of this excitement varies from a few hours to several days. These episodes are followed more or less by long intervals in which the patients are quiet in mind and body. They may be stuporous, but usually show only slight disturbance of orientation. Later they pass into a delirium like that of meningitis or typhoid. If diarrhea be present, the complex of typhoid pellagra is recognized. This may develop in a chronic case, or be an acute process. While in rare cases the bodily and mental symptoms may improve, death usually follows this typhoid condition. Hallucinosis seems to offer for the first attack a decidedly favorable prognosis.

Dementia does not always ensue upon a severe initial attack, but develops in chronic cases of either bodily or psychic pellagra. The development of katatonic symptoms, which may appear, especially in youthful cases, renders the diagnosis difficult.

IV. ACUTE DELIRIUM. (TWO CASES).

The cases of this group are distinguished from those of the third group by the intensity of the disease symptoms, hallucinations, motor excitation, and shorter course ending in death. For this reason, the conception as acute delirium seems justified.

The symptoms of this condition may occur without the bodily signs

of pellagra. But they usually occur synchronously. Absence of a rise of temperature has been noted by both Italian and German observers.

Groups II., III., and IV. show a great similarity with the mental symptoms of acute infectious diseases. They might, therefore, be classified under the infective-exhaustive psychoses.

V. KATATONIA. (TEN CASES).

The katatonic condition occurs with acute somatic pellagra. Here, considering the concurrence of acute somatic and psychic pellagra, we must assume a pellagrous intoxication as the causative factor, as in pellagrous neurasthenia. Many patients show consciousness of their disease. Hallucinations may precede this condition. Excitment, stereotypy, wild jactitation and verbigeration are common. The katatonic cases pass rapidly into dementia.

Of the cases of the fifth group, the majority belong to the katatonia subdivision from the symptoms, course and termination. In three cases, (females) excitation occurred, ending with stereotypy, jactitation and verbigeration. The patients did not show marked affects. In one case, hallucinations preceded the condition. In all three cases, the transition into dementia was rapid, in which posture and motion stereotypies, impulsive actions and talkativeness were observed. In one case, these symptoms were followed by a permanent negative phase. In another case, besides many postures and motion stereotypies, an interchange of negativism and *flexibilitas cerea* was observed. In one case, the katatonic symptoms were marked from the beginning. A male case showed, on admission to the hospital, katatonic excitation, and after a few days a remission followed by another katatonic phase.

Six of these cases ended in dementia more or less rapidly, although remissions may occur.

VI. ANXIETY PSYCHOSIS. (THREE CASES).

The violent, fluctuating anxiety affect, the motor unrest, the anxiety ideas, and the "phonemes" completing them, determined from the first the diagnosis of an anxiety psychosis. It is true, this disease picture is complicated by extraneous features. The patients show a marked sense of insufficiency, appear slightly stuporous in the intervals between attacks and resemble cases of groups II, and III. Later after the anxiety attacks have disappeared, the mental weakness increases, the second phase gradually lessens as it does in patients of the groups mentioned. In the second case, the psycho-motor weakness changed by turns with violent anxiety affects and vivid motor unrest. Temporary ideas of persecution, and of sin, and later of stupor were also observed. The third case was typical depressive melancholia.

VII. MANIC-DEPRESSIVE INSANITY. (TWO CASES).

Of the two cases, one showed the condition of mania arising from subjective pellagra troubles. In the other, mania was followed by a distinct stupor.

SPINAL DISTURBANCES.

Gregor verifies Tonnini's observations upon the spinal symptoms of pellagrins. These are: Increase of the tendon reflexes, increase of mechanical muscular excitement, tremor of the fingers, rigidities and spasms of the leg muscles, spastic gait, diminution of the tactile, thermal, faradocutaneous sensibility; paresthesias, ataxia of lower limbs and in rare cases, of the upper extremities; and Romberg's symptom. Also, muscular spasms; tonic spasms being present

in patients in the terminal stage of pellagra, but clonic spasms are also observed, and these without the symptoms of typhoid pellagra. Paresis of the lower facial nerve was also noted.

DEMENTIA.

The dementia following pellagra shows different forms. One form develops an almost complete disappearance of mental activity, which justifies the name "paralytic." But a milder degree of dementia characterizes the larger number of cases. They are oriented, usually well-behaved, but dull and show a lack of self-restraint, with a tendency to break out into violent passion and impulsive actions.

A simultaneously existing alcoholism has a modifying influence upon the disease picture. Furthermore, in many individuals, the pellagrous mental disturbance does not appear until old age, and brings about a precocious senile dementia.

There is a distinct pellagrous dementia, like paresis, marked with somatic changes. An affirmative answer is given to the question: Are there diseases, pictures of dementia, whose anatomical basis is an injury to the brain by the toxines of pellagra?

TERMINATION.

Of 42 non-fatal cases, 21 were first attacks. Of these 17 recovered and four became demented. The others (21) had already passed through former psychoses. Of these 7 were cured and 14 became demented. These figures prove how unfavorable for complete cure the pellagrous psychoses are.

Of the 72 cases, Gregor classified under amentia group 32, the dementia and katatonia 10 each; neurasthenic 7, anxiety psychosis 3, manic-depressive and acute delirium 2 each. The other cases making up the total were excluded for alcoholism, etc. These figures show that not a sufficient number has been studied for final conclusions. The further studies and reports promised by Gregor will be awaited with interest.

GREGOR'S GENERAL SUMMARY.

In pellagra there occur mental disturbances, which belong to different forms of psychoses. The first three groups must be considered as pellagrous from their development, symptomatology and course, being caused by the pellagrous intoxication of the central nervous system. The assumption of a pellagrous dementia is justified; it can be delimited in the terminal stage from dementia paralytica, which is alone to be considered differentially. Weakness of memory is not a characteristic sign of pellagra, its apparent presence being really a sign of psychic impediments. The many-sidedness of the condition picture explains the view that all forms of mental disturbances may occur in pellagra. Pellagra does not cause true melancholia, and depression in pellagra is not dependent upon exhaustion, since it occurs also in well-nourished cases, and in favorable conditions of life. The contradiction between the views of Finzi and Vedrani is explained by the fact that both had not the same pictures before them. Furthermore hallucinations and disturbances of orientation occur episodically in pellagrous psychoses. Among the spinal symptoms, the marked diminution of farado-cutaneous sensibility and the occurrence of clonic muscular spasms in the so-called second stage deserve special mention.

As will be seen, Gregor's classification also is not above criticism; katatonic conditions are observed in his dementia and amentia groups, and his acute delirium differs only in degree from some of the same cases. Paranoic symptoms appear in the patients of several groups, and stupor with his anxiety cases. A neurasthenic condition preceded all of the psychoses, but his paralytic cases equally deserve separate grouping. He admits typhoid

pellagra without temperature, and pellagrous neurasthenia without somatic stigmata, while renouncing *pellagra sine pellagra*.

The only careful consideration of this broad subject that has come to my knowledge by an American physician, is that by J. W. Mobley (25) of the Georgia State Sanitarium. He says his cases fall principally under the intoxication, or infective-exhaustive group, and he has subdivided them under four headings:

1. Acute Intoxication Psychosis, with psycho-motor suspension.
2. Infective-Exhaustive Psychosis, with psycho-motor retardation or excitation.
3. Symptomatic Melancholia, with psycho-motor retardation.
4. Manic-Depressive, with psycho-motor retardation or excitation.

The question now arises: Under what group shall pellagrous insanity be classified?

Bucknill and Tuke (26) classify pellagrous insanity with alcohol under toxic insanity. Regis (27) classifies the pellagra psychosis with the psychopapathies of exo-intoxications; Mongeri, (28) under the infective psychoses, between the post-influenzal and Korsakoff's disease.

Bianchi (29) classifies pellagrous insanity under the toxic psychoses, with alcoholic, morphine and cocaine conditions, and separate from the infective group. Tanzi (30) considers it a toxic insanity.

CONCLUSIONS.

The association of pellagra with nervous and mental symptoms is common. This relationship is that of direct cause and effect, and is not an accident or coincidence.

Cases of pellagrous insanity have usually suffered from pellagra with neurasthenic symptoms for sometime before the development of mental symptoms. The psychoses are therefore, as a rule, the result of a chronic intoxication.

Some cases of pellagrous insanity appear to belong to the infective-exhaustive type of mental diseases, and others rather to the toxic group. In view of the fact that these two groups have been embraced under the comprehensive term of confusional insanity, many cases of the pellagrous psychoses may better be included under the general heading of confusional insanity.*

It seems to be admitted that the mental condition of pellagrins undergoes an early modifidation. This early mental state may be ill-defined or show itself by a greater moral impressionability, or greater psychical excitability, or it may be described under the general term of neurasthenia. Later inertia appears, the patients are apathetic, show psychomotor impediments. There is said to be intellectual hebetude, stupor or even mutism. Lombroso's "psychical catalepsy" may appear. If they are not silent, pellagrins respond with difficulty, or have the air of not understanding what is said to them. Insomnia is almost universal, and depression, (psychic pain) is characteristic. Stupor often ensues, and confusion, the type of exhaustion and intoxication psychoses, dominates the scene. The patients appear frightened, become suspicious, have ideas of demoniacal possession, refuse food and medicine, are subject to hallucinations, illusions, delusions, are suicidal (hydromania) and have other criminal tendencies. Episodic disorders of memory and orientation are observed.

*It may be well to place here a summary of Kirby's views of the symptoms of confusional insanity: (31) A relatively short course, some delirium or very marked confusion, hallucinations, unsystemized delusions and later stupor and mental enfeeblement. Delirium varies according to the character of the individual and therefore may be absent or very severe and fatal. Hallucinations, delusions and disorders of memory and orientation vary in individuals and groups.

The effort is sometimes made to classify the mental condition of pellagrins as acute and chronic. *The acute*, commoner symptoms are: Temp. 39 degrees to 41 degrees C.; Neuromuscular excitement, subsulti, contractions, muscular rigidity, exaggeraated reflexes, confusion with phases of exaltation, and marked insomnia.

This condition is more common with alcoholism but may be engrafted upon the so-called chronic form. It is often manifested as an acute collapse delirium, and is probably the typhoid pellagra (pellagra typhosus) of some writers.

In chronic cases: Depression, confusion paresthesias, hallucinations, and illusions, memory disturbances, insomnia, exaggerated reflexes, ataxia, and terminal dementia.

Intermediate forms occur, being marked by alternations of depression and exaltation with remissions and apparent recovery. Excitement may break forth without cause, especially in the Spring and Summer.

Polyneuritis is sometimes observed.

For the chronic form, dementia is the common termination, but it may be complicated by paralysis or tuberculosis.

In the first attack the pellagra psychosis is an amentia, (confusional insanity). In the latter and progressive phase, marked by chronic and incurable cachexia, it is a dementia. It is an intermittent and progressive amentia, which if not cured, or if not early fatal, terminates in dementia. (Tanzi) Or it may end in chronic mental confusion or in pellagrous pseudo-general paralysis. (Regis.)

Depression and confusion are the more common mental symptoms associated with pellagra, but periods of exaltation (excitement) occur episodically.

Strictly there is no mental symptom-complex characteristic of pellagra, but pellagra may act as the exciting cause of several forms of nervous and mental states, varying from neurasthenia to polyneuritis and meningitis, and from simple depression to paretic conditions and dementia.

Under the influence of the pellagrous intoxication patients commit crimes—suicide, (hydromania) homicide, infanticide, incendiarism, etc.

According to the degree or duration of the pellagrous intoxication or possibly from idiosyncrasy, the patient is liable to develop the symptoms of acute collapse delirium at any time, and die in the attack.

It is not unlikely that the mental symptoms of pellagra may differ by seasons or in different countries and in different parts of the same country, just as broadly speaking, do the physical signs and symptoms of the disease.

After all may not Baillarger be right in questioning whether the pellagrous poisoning does not, like alcohol, produce these various neuroses and psychoses according to the reaction of different individuals?

Finally, in the language of Dr. Zeller, when we understand what pellagra is—"root and all, and all in all"—shall we not better understand what insanity is?

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A CONSIDERATION OF PAIN AS A SYMPTOM OF DISEASE INVOLVING THE RIGHT HALF OF THE ABDOMEN.*

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In selecting this subject I have not hoped to advance many new ideas nor, in the brief time allowed, to give consideration to all the affections of the right half of the abdomen, but rather to review the essential features which aid us in arriving at a diagnosis and present the same in a practical way most suitable for a better understanding of some of the more obscure manifestations of disease affecting this part of the body. To this end, I will discuss pain as it occurs and as it is complained of by patients in each of the several anatomical regions.

While I presuppose a fundamental knowledge of the topography and relative position of the organs contained within the abdomen, together with the physiology of the nervous mechanism concerned in transmitting painful sensations from the viscera to the central nervous system, there are certain phases to which I desire to direct attention now.

Whereas the spinal nerves ordinarily connect directly with the parts which they supply, it is different when they come to supply the viscera. Here the sympathetic system is interposed. This arrangement is for a diffusion of impulses, which is made possible by the fact that one efferent spinal nerve fibre may connect with several nerve cells in a sympathetic ganglion. These latter through their axis cylinder processes are capable of a much wider distribution than would be possible without such a system.

While the sympathetic constitutes the chief nerve supply of the abdominal viscera, certain spinal and notably one cranial nerve sends fibres directly to them. For example, the vagi, which together with the sympathetic supply the stomach, also supply fibres to the gall bladder, and greater part of the intestines. By reason of this extra vagus supply to the gall bladder and small intestine, pains originating in these organs are not infrequently referred to the abdominal organ chiefly supplied by the vagi, viz: the stomach. Hence, such pains as these are spoken of as *referred* pains.

Closely related to referred pains are the so-called *transferred* or *sympathetic*

*Read before the Tri-State Medical Association, in Richmond, Va., February, 1910.

pains, which are felt at some point on the skin instead of in the internal organ which is the source of the pain. This transference of the pain is explained on the ground that both the skin area and the organ involved receive their nerve supply from the same segment of the spinal cord and that the pain is often felt in the part of higher sensibility, that is the skin, rather than in the part of lower sensibility to which the stimulus is actually applied. We speak of the internal organs as being of lower sensibility because they possess only the common sensations of pain and are devoid of tactile and temperature sense.

Another very interesting clinical observation in regard to pain is its *incomplete localization*. While sensations of touch and of heat and cold are referred by the mind to almost the exact point of contact, the localization of a painful stimulus is not so definitely circumscribed. This is especially true of intense pains, slight pains being interpreted with a greater degree of accuracy. These observations apply throughout the body, but are more pronounced in the case of the internal organs. A familiar example of this incomplete localization is severe intestinal colic, in which the pain is complained of as being nearly all over the abdomen, the irritation probably proceeding from only a small part of the intestine, whereas, on the other hand, a mere twinge of pain in the abdomen is easily assigned to a fairly circumscribed area.

Lastly, we have to consider a variety of abdominal pain which I would term *reflex* and to which I shall refer again.

Thus it is seen that in the interpretation of abdominal pain there are various misleading and confusing factors, viz: Diffusion of pain, referred pain, sympathetic pain, incomplete localization of pain, and reflex pain. These should ever be borne in mind. Fortunately the tenderness or pain elicited on palpation leads us more correctly to the region involved and, if pressure upon an organ gives rise to pain of the same character as the spontaneous pain complained of, such organ may be safely considered the seat of the lesion.

For the purposes of my paper I will adopt a simple division of the abdomen by drawing one vertical and one horizontal line, the vertical line passing from the ensiform cartilage through the umbilicus to the symphysis pubis, and the horizontal at the level of the umbilicus and ending on either side at or a little anterior to the highest point of the iliac crest. The anterior portion of the abdomen is thereby divided into four regions, the right and left upper and the right and left lower quadrants. The upper quadrants are limited laterally by the continuation downward to the iliac crests of the mid-axillary lines, and the lower quadrants by the portions of the iliac crests anterior to the mid-axillary lines and by Poupart's ligaments. There are two posterior abdominal regions, each limited externally by the mid-axillary line, internally by the spinous processes of the lumbar vertebrae, above by the lower margin of the thorax, and below by the crests of the ilia and the iliolumbar ligaments. It must be borne in mind that these upper and lower boundaries are only superficial demarcations and by no means coincide with the deeper boundaries. This subdivision is not intended to replace those of Cunningham and others, which divide the abdomen into nine regions, but is only offered as a convenient one, useful in recording histories. Furthermore, it is not applicable in all cases, since patients frequently refer their symptoms to the middle portion of the abdomen instead of to one of the quadrants, when it becomes necsssary to make use of the familiar terms, epigastric, mesogastric, and hypogastric regions.

It is essential to an understanding of diseases of the abdomen that we familiarize ourselves with a number of artificial and natural landmarks in their relation to the internal organs, for, while these landmarks may not overlie all the various organs, they serve as points of departure from which we can trace the outline of those which lie in proximity. Indeed, to my mind a through knowledge of the anatomy of the viscera is the foundation and most important step in diagnosing their diseases.

In each of the three regions of the right half of the abdomen there is at least one important organ which should always be excluded or included as a causative factor in the production of symptoms referable to the corresponding region. For example, in the right upper quadrant we have as a very frequent source of trouble the *gall bladder*, in the right lower quadrant the *appendix*, in the right posterior the *kidney*. These three are so frequently productive of mischief that we would make no mistake to speak of the right half of the abdomen as being divided into the gall bladder, appendix and kidney regions respectively. So, I will consider pain as occurring in the chief organ in its area and differentiate it from that which occurs in other affections.

Pain in gall bladder disease varies in character and intensity from a dull aching observed in mild cholecystitis to colicky and cutting pains, when there is a sudden hinderance to the egress of its contents. While the character of the pain gives us a probable idea as to the nature of the trouble (colicky pains indicating gall stones), experience teaches that about one out of every six or seven patients who complain of colicky pains are found to have no gall stones. Conversely, stones have been found in about three-fourths of the patients who had only the dull aching pains.

Deaver, in a recent article, lays stress on a sense of tightness or constriction across the epigastrium as being characteristic of gall stones and considers this a valuable aid in the differentiation from other lesions of the upper abdomen.

The location of pain originating in the gall bladder may be said to be in the gall bladder region and in the epigastrium. So often are so-called stomach symptoms referable to gall bladder disease that we have learned in recent years to consider seriously the possibility of the latter in all cases of long continued indigestion accompanied by distress in the stomach and more especially if these symptoms occur from three to four hours after eating, when the normal contractions of the gall bladder are known to take place. If these attacks of indigestion are separated by days or weeks of comparative freedom from same, it is all the more indicative of gall bladder disease. Gall bladder pains are also commonly referred to the region of the right scapula and less often to the right shoulder and appendix region. Tenderness over the gall bladder usually accompanies disease of this organ and is best elicited by placing the fingers deeply under the gall bladder and requesting the patient to inspire.

The most likely affections to be confused with gall bladder disease are gastralgia, gastric and hepatic carcinoma, inflammatory conditions of the liver, pancreatic disease, and intestinal colic. So far as the pain is concerned, it may be very similar, but the following differences have been noted:

In gastric ulcer the pain is more distinctly aggravated by taking solid food, though liquid food and especially albuminous liquids often relieve the pain by diluting the hyperacid contents of the stomach, whereas, when gall bladder pain is induced by taking food, there is no special difference between the effects produced by solids and

liquids and the pain in gall bladder disease is never relieved by taking food of any kind. As to the time of occurrence, this varies, but in pyloric ulcer and especially duodenal ulcer and gall bladder disease it is more apt to occur from two to four hours after eating. The point of greatest tenderness, however, is different in these three conditions. In gall bladder disease it is just below the lower border of the 9th right costal cartilage and is altogether less marked than in ulcer. In gastric ulcer it is in the median line just below the ensiform cartilage, sometimes to the left of this point, or in the transpyloric line, and posteriorly one inch to left of spine between the 10th and 12th dorsal vertebrae. In duodenal ulcer it is usually over the right edge of the bodies of the 1st and 2nd lumbar vertebrae, though it is frequently only in the median line, and often in gastric or duodenal ulcer the tenderness is diffuse over the epigastrium. So that, notwithstanding these points of difference, doudenal ulcer especially is frequently mistaken for gall stones. This would naturally be expected on account of the close anatomical relationship of the first two or three inches of the duodenum to the gall bladder, and it is in this part that at least nine-tenths of duodenal ulcers occur.

In addition to this source of error I have observed in two recent cases what I consider reflex painful contractions of the gall bladder dependent upon an ulcerated duodenum. In both cases there was more or less constant pain in the epigastrium and at times colicky pains in the gall bladder region extending through to the right infrascapular region. Others with myself naturally made a diagnosis of gall stones, but at operation I found none and the gall bladder appeared normal. From the subsequent history of these cases I felt justified in changing my diagnosis to duodenal ulcer. Therefore, I conclude that, whereas the emptying of the chyme into the duodenum reflexly causes normal contractions of the gall bladder with the pouring of its alkaline bile into the duodeum, the presence of an ulcer allows an undue irritation of the afferent nerve endings, which, instead of setting up a normal reflex, gives rise to spasmodic and painful contractions in its attempt to respond to the unusual stimulus produced by the action of the acid chyne on the ulcer.

Nervous gastralgia gives rise to spasmodic burning pain, independent of taking food, often relieved by the latter or by pressure upon the stomach.

Carcinoma of the stomach or liver give sensations of weight and continuous sensations of dull, ill-defined epigastric and hypochondriac pain with moderate tenderness over the lesion. Paroxysmal pain is occasionally observed.

In *abscess of the liver* the pain and tenderness are felt over the liver proper. The character of the pain is that of diffuse soreness. The accompanying symptoms and physical signs are usually sufficient to make the diagnosis clear.

Pancreatic calculi and *acute pancreatitis* produce sudden sharp epigastric pain which is with great difficulty distinguished from other acute conditions of this region.

In *intestinal colic* the pain is felt chiefly a bout the umbilicus and radiates in various directions.

Of course, in differentiating these conditions, the associated phenomena are of material assistance, but other than to elucidate the subjective symptoms of pain and tenderness is not the province of this paper.

The most frequent source of trouble in the lower right quadrant of the abdomen is the appendix. Appendicitis gives rise to pain which at first centers around the umbilicus, but which is later localized in the right iliac fossa. There are cases, however, in which from the beginning the pain is confined

to the right iliac region. The character of the pain is nearly always sudden and cramplike, though occasionally it amounts to only a dull aching and may even be absent, as is sometimes observed in gangrenous forms. Palpation reveals tenderness over a circle a few inches in diameter which usually has its center at McBurney's point. In chronic appendicitis the patient complains of an uneasiness or slight soreness in the appendix region, which is subject to acute exacerbations following slight causes such as indiscretions in diet, collections of feces in the caecum, or muscular exertion.

On account of the similarity of the pain in certain other affections to that of appendicitis, it has to be differentiated from the following:

1. *Appendicular colic*, in which the pain is identical, but, there being no inflammatory reaction, the tenderness is less marked.

2. *Enteralgia*, dependent on a neurotic or hysterical condition or on tabes. In this the pain is usually diffuse, but is most intense in the umbilical region.

3. *Intestinal colic* due to the presence of irritating substances in the intestines. This is characterized by severe paroxysmal pain most intense in the umbilical region, but showing more of a tendency to radiate in different directions than in simple enteralgia. The radiation follows the advancing peristaltic movements and the sensation of the shifting of intestinal gases is felt. There is usually no tenderness on pressure, but, on the contrary, the latter often seems to afford some relief,

4. *Intestinal obstruction.* The pain in this condition is like that in the early stages of appendicitis and intestinal colic. Later, in the course of these affections other symptoms and signs are added which make the differentiation easy.

5. *Renal Colic* and *Dietl's Crises* are sources of error in diagnosing appendicitis, but in these the pains appear to originate in the loin and radiate into the groin, testicle, and inner side of the thigh.

6. *Typhoid fever.* The swollen and tender ileum and mesenteric glands of typhoid fever have more than once caused surgeons to suspect appendicitis and even open the abdomen before discovering their mistake, The more gradual onset of the pain in typhoid fever, together with the absence of other features peculiar to the latter condition, will prevent error in most cases.

7. *Right salpingo-oophoritis* and *tubal pregnancy* may give rise to pain closely resembling that of appendicitis, especially when the appendix is situated lower than usual. A thorough pelvic examination coupled with a careful history of the case should serve to differentiate these conditions.

The last region for consideration is the *posterior* abdominal, which contains as its chief organ the kidney.

Kidney pain is referred to this region or, as it is commonly called, to the loin or small of the back, and varies in intensity from a feeling of discomfort or dull aching accompanying a slight movable kidney or a benign tumor, through the somewhat greater disturbance due to the passage of small sand, to the intense suffering of renal colic, consisting of paroxysms of agonizing, dragging pain in the loin of the affected side. Pain in the kidney, while having its greatest intensity in the loin, has a definite course of radiation, which is from the loin, following the course of the ureter, sometimes to the bladder, but usually to the groin, testicle and inner side of the thigh. This radiation corresponds to the distribution of the ilio-inguinal nerve, but also sometimes includes that of the anterior and genito-crural nerves. Exercise increases the pain of renal

calculus. Palpation usually reveals tenderness just below the last rib, especially when assisted by counter pressure in front.

Renal Colic, while commonly due to the passage of a calculus, may be caused by anything which produces a sudden blocking of the ureter, such as the twisting of the pedicle of an abnormally movable kidney (Dietl's Crises) or the passage of a clump of mucus, pus, or blood clot

Pain and tenderness in the loin are symptoms of acute inflammations of the kidney, such as *pyelitis, pyelonephritis, pyelonephrosis* and *perinephritic abscess.* In these the pain is of a stretching character, there is marked tenderness on pressure and, in the severer types, the slightest movement of the body increases the suffering.

Similar, but less marked pain, characterizes *tuberculosis* of the *kidney*, but the difference in the constitutional symptoms and the examination of the urine serve to differentiate these affections.

Peri-nephritic inflammation exhibits superficial tenderness, whereas inflammation of the kidney itself exhibits tenderness only on deep pressure and, according to Johnston, the tenderness of peri-nephritic abscess is most marked posteriorly just below the last rib, while the tenderness of true renal suppuration is most marked in front.

Lastly, we must differentiate *myalgia.* I use this symptomatic term to cover a large group of cases showing pain in the muscles or fascie, whether its origin be diathetic, rheumatic, neuralgic, or be due to a strain or exposure to cold. It is my opinion that the majority of patients who complain of pain in the posterior abdominal region are afflicted with myalgia or, as it is popularly known, lumbago. I cannot help having a feeling of resentment when I glance at advertisements in the lay papers with large headlines reading, "*Pain in the back means kidney disease*". This is made all the more repulsive by an accompanying cut of a man in the characteristic attitude of one suffering from lumbago. By always bearing this common condition in mind it ought rarely, if ever, be mistaken for anything else. The more superficial location of the pain, its evident dependence on bringing into action the muscles of the loin and lower part of the back together with the absence of constitutional and urinary symptoms, make a characteristic, picture.

I did not mention myalgia as a cause of pain in the anterior abdominal region because of its infrequent occurrence. It, however, should be borne in mind, as it is occasionally seen. Only a few weeks ago I had a case sent me for operation, a probable diagnosis of gall stones having been made. After keeping her under observation a few days, I was convinced that the pain was entirely in the superficial parts and so spared her an operation, and her physician and myself embarrassment.

A DISCUSSION OF NEW FACTS CONCERNING POLIOMYELITIS, ITS ETIOLOGY, EARLY DIAGNOSIS AND TREATMENT.

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Within the last decade over eight thousand cases of this disease have occurred; and of these, five thousand were in the United States of America. It is likely that at least a thousand people have been attacked in Pennsylvania alone this year; and in the District of Columbia a committee appointed to study the outbreak there has cognizance of over five hundred cases.

Thus, the situation is a serious one; and every new fact bearing upon the disease should be carefully weighed by each of us, until we have found means to prevent the spread of infection or have discovered a method of arresting the disease before the nerve elements are destroyed.

Etiology and Pathology—The disease is not a primary atrophy of the anterior horn cells from acute toxemia. It is a constitutional disease due to a living virus which causes an inflammation of the connective tissues of various organs, including the lymph glands and intestinal follicles. It is accompanied, too, by congestion of the spleen and of the mucus membranes. The meninges are inflamed, and the whole central nervous system is more or less hyperaemic. The destruction, however, vastly preponderates upon the region of distribution of the anterior spinal arteries, which supply the anterior cornua, the injury to the motor cells which produces the paralysis.

Those cells around which the inflammation is not so severe as to produce more than oedema quickly recover as the invasion ceases, and this accounts for the rapid return of power in some cases. Other cases where return of power is less rapid are accounted for by the reintegration of a destroyed axone, the pyramidal cell of which has escaped necrosis. In other cases, it is the fibres of the pyramidal tract which are mainly involved as they proceed towards the cells in the cornua, which themselves in part escape. Such a case is characterized by exaggerated reflexes and sometimes by Babinski's toe sign. Still another set of fibres may receive the chief impact; I refer to the rubro-spinal fibres, which also pass to the anterior cornua cells, through which they regulate muscular tonus. The loss of their influence leads to hypotonia and tremor, without paralysis so long as the pyramidal cells themselves are not implicated. Of course, the clinical picture may vary in different parts of the body in accordance with the differing incidence of the inflammatory exudate upon different segments of the cerebro-spinal axis; and in the same segment, some cells may escape where others are attacked.

Conveyance of the Disease—The salivary gland has been used by Levaditi to convey the disease from one monkey to another. In the Rockefeller laboratory, they have conveyed the virus by spraying into the nares an emulsion of nasal mucous membrane from a diseased animal. The most

infectious material, however, is the spinal cord. The cerebro-spinal fluid is infective only for a few days.

Carriers—It is believed that the disease may be conveyed by the medium of a healthy carrier.* Some hold very strongly that abortive, undiagnosed cases are responsible for the spreading of the disease so widely. If this is the case, isolation of ascertained cases must be of little avail, especially as there are other facts which seem to point to the superfluousness of isolation as at present conceived against this disease. An instance will make this clear.

Non-Contagiousness—A child aged eleven was attacked with acute paralysis at Bethesda, Maryland, this summer. She had been playing out of doors all day long for weeks with seventeen younger children, seven of whom were her own brothers and sisters. All of these were under careful observation by Dr. John Lewis, the Health Officer of the district, with whom I later saw the case. Not one of these children developed any sickness which would in the least point to poliomyelitis. No contact with another case could be traced, and none of the children had been to town for some weeks. It was the first case recognized at the time in the neighborhood.

Again, in the Washington Children's Hospital, some twenty-five cases of poliomyelitis have been admitted this summer, many of them in the acute stage. They were placed in the common ward; and at first no special precautions against infection were adopted. No patient in the hospital contracted the disease at that time. Latterly, spraying the nares has been employed, and a certain isolation has been maintained, in spite of which I understand that one case of poliomyelitis developed recently in a child soon after it left the hospital.

I need not instance further, for the number of examples where intimate contact has not led to contagion is legion.

Contagion—On the other hand, instances where known single contact has lead to the disease are not lacking. The Stromsburg, Nebraska, outbreak is the most striking example; and another has just occurred, and was observed by myself, during our study of the Washington epidemic.

At McKendrie, Md., in the practice of Dr. A. H. Perrie, the child of a railroad brakeman became febrile and paralyzed on August 1st. Fourteen days before she had visited Chesapeake Beach, to which many Washington people resort. Nine days later, this child's cousin was attacked. The contact consisted of a visit to a church fair where the children were together some hours. In the meantime, the doctor's own daughter, about Aug. 8th, was attacked by the disease, and later still another family who had been in contact had one child paralyzed. In the Washington report will appear the full history of the epidemic.

Proper Isolation—It is manifest from facts of this nature that either, (1) the number of immunes to this disease is very great, or (2) that certain bodily states render infection possible, or (3) that the manner of conveyance is very different from that against which precautions are being taken by those who advocate isolation. Proper isolation would consist of closing of the avenue of infection, and as we do not yet know this in nature, only isolation from everything can possibly safeguard. It is possible that the disease is really conveyed by an insect either as carrier or intermediate host. No one can forget the complete failure of quarantine to prevent the spread of yellow fever, until the false belief that it was carried by fomites was supplanted by the knowledge of its conveyance by the Stegomiga fasciata. Another

*Nebraska Epidemic; Dr. C. A. Anderson. Ohio outbreak; Dr. Frost, U. S. M. H. P. H. Service.

instance is the very simple conveyance of Texas cattle fever by the Boophilis bovis tick under conditions formerly thought so extraordinary.

IS NOXA PROTOZOAN?

Besides, evidence is not wanting to support the hypothesis that the infective agent may be a protozoan, in which case an intermediate insect host would be presumptive.

This evidence consists of the nature of the pathological reactions of the central nervous system. That there is a lymphocytosis of the cerebro-spinal fluid during the acute phase is now well-known. But no thorough study of the cytology either of fluid or neuraxis has yet been published. From eleven cases in different stages of evolution the sub-arachnoid fluid has been taken by the Washington Committee. A complete study of the cells has been made by Drs. Hough and Lafora. The method used is the precipitation of the cells by absolute alcohol, the embedding of the precipitate, and its section and staining as if it were a tissue. Even in the earlier stages there is some pleocytosis. The polymorpho-nuclears are abundant (15 per cent.) It is likely that they originate in the meninges themselves on account of the inflammation there. After a few days these cells are less numerous, and the pleocytosis consists mainly of lymphocytes, with some plasma cells. In some cases, mast cells are found. It is phagocytic macrophages, which cause the disappearance of the polymorpho-nuclears. As many as twenty may be found digested in a single cell, where they exhibit pyrominophile and fuchsinophile reactions, and may assume forms resembling the Leishman-Donovan bodies found in some protozoan disease. In the acute phase, it is usual to find altered erythrocytes due to minute hemorrhages where the inflammation is intense. Later on, altered lymphocytes, körnchenzellen, etc., occur. A moderate increase of pressure was found early in the disease; and there was usually an increase of the protein content sufficient to react positively both by the methods of Nonne-Apelt and Noguchi. No bacteria appeared in the stained preparations. Hough and Lafora are of the opinion that these appearances are in favor of the protozoan nature of the virus of poliomyelitis. Their researches will be fully reported in Folia Neurobiologica, and along with the report of the Washington Committee.

Early Diagnosis—Cases of poliomyelitis have often been called rheumatism. This is on account of the severe pain and great tenderness which occur when the meninges are much inflamed. The distinction, however, is quite easy; for in acute rheumatism the joints themselves are inflamed, and hence are hot, red and swollen; whereas in poliomyelitis there is no special heat, redness, or swelling of the joints or limbs. Besides, there is always a modification of the reflexes in poliomyelitis, and as soon as the horn cells of any segment are invaded the reflex arising in that segment is first diminished and later suppressed, often several hours before paralysis occurs. When the attack is mainly on the pyramidal fibres, either in the affected segment or high up in the cord, the reflexes may be exaggerated in that part of the body, supplied by those fibres. Again, before the meningeal inflammation has extended to the cord, there may be for a time exaggeration of reflex activity.

The *earliest symptoms* are usually one or more of the following: Great weakness with apathy or irritability, sometimes including photophobia; sometimes slight coryza; marked insomnia is often present (Ph. Roy, Washington Committee), and this in a child without fever or intestinal trouble should excite suspicion. When this is followed by great weakness, and

restlessness later occurs, suspicion is still stronger; and when profuse perspiration begins without a very high fever, I believe that the diagnosis should be made, more especially if any reflexes have diminished or Kernig' sign occurs.

Diagnosis from Cerebro-Spinal Meningitis due to the Diplococcus Intracellularis—*The Cerebro-spinal fluid*—In cases where restlessness and hypersensitivity usher in the illness, this diagnosis is sometimes impossible; and rather than lose valuable time in awaiting further symptoms, the meninges should be punctured and the fluid examined. Only in that way can we be sure of saving the child without damage, if it is the meningococcus which is at work. But even in poliomyelitis, lumbar puncture is rather an advantage than otherwise; for it relieves the pressure within the cerebrospinal sac, and probably diminishes congestion of inflamed structures. Examination of this fluid, too, may afford information; according to Flexner, there usually being a marked lymphocytosis in monkeys, the proportions being: polynuclears 40 per cent., lymphocytes 40 per cent., large mononuclears 15 per cent., eosinophiles 5 per cent.; while the blood count was polynuclears 60 per cent., mononuclears 25 per cent., lymphocytes 12 per cent., eosinophiles 3 per cent., occurring with a distinct leucopenia. This diminution of white corpuscles did not disappear until the acute stage of the disease subsided. It will be noted that these findings are different from those revealed by the more thorough examination in human beings by the Washington Committee. Inoculation of a monkey with cerebrospinal fluid from an abortive case may be used for diagnosis of a dangerous carrier. Vomiting is often an early symptom, and headache is the rule. Rigidity of the neck and Körnig's sign are most marked in the meningeal type of onset. In some cases the extremities are cold in spite of the general fever.

Treatment—*I. In the acute stage*—There are two distinct indications: The first is *to preserve life and prevent paralysis.* We have no certain means of accomplishing these objects, and the students of immunity are not hopeful of making a serum either to arrest the disease or to prevent its inception. Haxamethylenamine has completely failed to arrest the inflammation in cord and meninges, although it has been thoroughly tested in the Washington epidemic this year. There is, however, a remedy of which we may hope that further trial will show the use. I refer to mercury, the power of which over some infections has become better realized since it has been employed by injection into the muscles or veins.

A case—I have, however, only had opportunity to test it in one case of poliomyelitis during the acute phase. It was done because of a sudden advance of acute ascending paralysis in an adult who had apparently improved on the preceding day, the fifth of his disease. By lumbar puncture also, 10 c. c. of cerebro-spinal fluid were withdrawn. Headache and nausea were at once relieved, and the paralysis ceased to progress, while the temperature fell steadily. During three days, five doses were given of mercury bichloride of gr. 1-3 and 1-4 alternately. In another case of the same kind with which I was associated, the remedy was not tried, and the disease progressed to respiratory paralysis and death on the fifth day. Both these cases were adults, seen in consultation. The first with Dr. John Lewis, of Bethesda, Md., the second with Drs. A. B. Hooe and Roy, of Washington. It is true that the injections would greatly perturb a child, who is hyper-excitable from meningitis; but a temporary disturbance is preferable to paralysis or death; and much less pain is pro-

duced by the small needle used than by the injection syringe needle required when diphtheria or meningococcus disease are in question.

If the disease is protozoal, the rationate of mercury is evident; and it is possible too that some arsenical derivative may be applicable.

Many have recommended cupping and other derivatives to prevent spinal hyperaemia. The rationale of this is at least doubtful when we reflect that the hyperaemia is Nature's defense against further invasion.

Special indications are: The constipation and retention of urine, which should be met by copious enemata, and not by drugs to stimulate peristalsis, which is deficient, not because of local toxins, but because of interference with innervation at the centre. Sometimes, a catheter is required; but usually a flow from the bladder will follow a third or fourth enema, the first, indeed, often failing to expel any faeces.

(2) The second indication is *to minimize the pain and irritability* of the attack, and to secure rest and sleep. The warm bath, or hot pack, is most efficacious in some cases. It not only acts as a revulsive to soothe the nervous system and tranquilize the circulation by its warmth, but it has the mechanical function of supporting the limbs so evenly that there is no drag to stimulate afferent nerve impluses and add to the irritation due to the meningo-myelitis. Other measures which secure the same end are water or air beds; maintainance of the limbs in a semi-flexed posture by soft pads, and support of the feet by a firm one. Support of the back by a firm cushion, well warmed and not too hard, gives great relief; and the proper adjustment of the pillows under the neck is of great importance. An ice cap sometimes causes great distress, and its use has no justification except the thoughtless routine of orthodoxy. An immobilizing jacket has been of great service in giving comfort to some little patients.

Finally, after the inflammation has subsided, usually in about a week, galvanism should be used as a direct means of diminishing the pain which is derived from the stretching and sagging of joints, ligaments and muscles caused by the loss of tonus in the muscle groups paralyzed, sometimes aggravated by hypertonus of antagonists not paralyzed. The relief given in this way is surprising to those who have not tried it.

An adult case seen with Dr. Ammerman, of Washington, would gain a tranquil repose of over two hours after half an hour's application of galvanism to his paralyzed muscles. At other times, restlessness and pain were so great that only by morphine could he secure any sleep at all, and his day was a perpetual misery. The hot bath was unavailable at that time.

II. Treatment of Residual Paralyses—Little children are reluctant to essay movements of a partially disabled limb. When it is an arm, they let it hang and use the other; if it is a leg, they make no effort and prefer to be nursed and waited upon. Suspension in water greatly facilitates movement when the muscles are feeble. We, in Washington, can fully confirm the experience of the New York Committee, who found out how easily the child could accomplish little movements in a bath, which he was unable even to attempt when his limb was not so supported, and it is very easy for the mother or nurse to invent little play games to maintain the child's interest for an hour at a time while suspended in a warm bath. There is no danger in this so long as the water is maintained near blood-heat. The skin does not macerate, and the effect upon nutrition is most favorable. To stimulate the circula-

tion in the limbs, they should be massaged several times a day.

Galvanism—From this procedure one must not expect to procure regeneration of atrophied muscle and nerve. Surgeons know well that the muscles supplied by a cut nerve atrophy,—will not regenerate although they are massaged till dooms-day. If, however, they are galvanized from the beginning, atrophy will not occur; for the exercise of their contractile functions maintains the integrity of the muscle elements and it is only galvanism which can excite contractility when the motor nerve and its endings have degenerated. If treated by galvanism from the beginning, a living muscle cell will greet each regenerated nerve fibre which pushes to its destination. If galvanism is not used, only the envelopes of dead muscle spindles will be met with. The time for these to regenerate must then be added to the duration of every case not treated by galvanism. It is necessary to re-state these simple physiological facts on account of the vogue of the pernicious statement that no treatment of poliomyelitis should begin until four months have elapsed. This doctrine is another instance of unthinking orthodoxy. But if the elementary physiological considerations just presented make no appeal, I need only cite the high authority of Erb, Bergonie, Zimmern and Zappert, the distinguished Viennese paediatrician, (added to that Duchenne's final experience), who makes a practice of galvanizing the paralyzed muscles just as soon as the acute symptoms subside.

Mode of Application—The current should be applied only to those muscles which are paralyzed; and the negative pole should be placed over the muscle itself near its tendon of insertion, while the positive pole is attached to a large electrode applied over the abdomen or other indifferent point. It is useless to stimulate the motor point except during the first two weeks, i. e. before nerve-endings have ceased to be stimulable on account of degeneration.

Of course, contractures and other deformities should not be permitted; and even when paralysis is complete and irrecoverable, they can be largely prevented by the maintenance of proper posture. Orthopaedics is the resort of despair and the result of neglect of proper and early treatment and the prevention of deformities, but the weak muscles may be reinforced with advantage by elastic suspenders long before the case is resigned to orthopaedics.

AMEBAE AS THE CAUSE OF PELLAGRA.

W. B. YOUNG, M. D., ROCK HILL, S. C.

The subject of pellagra has been agitated so much recently and so few theories have been advanced as to its cause, that the public is ready to listen to any new suggestions.

It is my candid belief that pellagra is caused by one of the protozoa, ameba, which infects the large bowel.

An ameba is an unicellular organism consisting of an outer membrane known as ectoplasm, and a darker and granular inner membrane known as entoplasm. Amebae are recognized in the stools as pale greenish bodies having a stronger refraction of light than the surrounding fecal particles. The power of motion is by the mechanism of small finger-like projections known as

pseudopodia. These small protrusions are sent out, gradually increasing in size until the whole cell has flown into this protrusion, thus changing its position.

Some investigators tell us that there are two kinds of amebae, a harmful and a harmless. There are however other investigators fully as good who contend that all kinds are harmful. I am inclined to take the latter view. The so-called harmful variety is known as the entameba hystolytica, when the harmless is known as entamebacoli. These organisms are transmitted from person to person by the careless handling of feces passed by patients harboring amebae. The stools instead of being properly sterilized and disposed of by sanitary methods are thrown about the yard or garden, consequently much of the dejecta is washed into the wells through the holes in dilapidated curbing around wells; or carried down the wells by buckets which have been handled by the mother or children whose hands are covered with amebae after handling the stools of infected people. Again swarms of flies soon make their way to the exposed organisms, in carelessly handled stools, where they get their feet well covered; and from here they go to the dining room and deposit the microbes on the food.

These amebae after reaching the stomach by the above sources may find either a welcome or an unwelcome home. If the person is strong and the digestive tract normal, the organism is either destroyed or made harmless by throwing out a gelatinous coating, this coagulates, undergoing the process of encystization. Other amebae reach a person with low resisting power, or a sub-acid stomach—they find a welcome home. Here they multiply by fission and begin to bury themselves in the mucus membrane of the gut by throwing out pseudopodia. These pseudopodia are used as a wedge to separate the columnar cells. As these cells are gradually pushed apart the parasite inserts itself and then enters the substructure, where, I believe, it secretes a toxin. This toxin causes a necrosis of the cells which is followed by sloughing, thus leaving an ulcer. The exposed vessels of this ulcer bleed into the lumen of the gut. The irritated cells on the sides of the ulcer secrete a mucus. The irritating contents of the gut enter the ulcer and the irritation causes an increased motion of the intestine and afterwards an expulsion of the above described contents, hence we get our dysentery.

The ulcerated condition prevents the intestine from secreting a normal amount of digestive juices, and the insufficiency of the juices coupled with the toxin secreted by the amebae allow a putrefaction of the food. Absorption of putrefied products takes place and a catarrhal condition of the whole digestive tract results. The absorbing power of the intestine under these circumstances is below par, so that the water which is taken into the stomach is soon propelled into the intestine. On account of the lack or absorbing power of these organs, the water soon distends the gut. This increases the muscular contraction of the gut, and contents are then expelled, giving the diarrhoea seen in the late cases. Although little is known of amebae, they, in all probability, secrete a toxin—whether in their ordinary state or during the cycle of change into some other protozoa, is a question which will be settled later.

Everything thus far given on the etiology of pellagra has been hypothetical. So unsatisfactory have these hypotheses been, that they have been given little credence. The following sounds more reasonable than anything I have yet seen.

I believe that the amebae secretes an endogenous toxin which is absorbed by the circulatory system and carried

to different parts of the body. As the nerves are the most sensitive organs of the body and degenerate most easily, they are the first to suffer, thus accounting for the neuralgia symptoms, pseudotabes, blisters, etc.

Howell, in his chapter on the vaso-motor nerves says; "Low temperature stimulate the sensory fibers in the skin and the nerve impulse thus aroused reflexly stimulates the vaso-constrictor center of part of it and causes blanching of the skin. Exposure to high temperature on the contrary flushes the skin and in this case we may suppose the sensory impulses carried by the heat nerves inhibit the tone of the vaso-constrictor center and causes dilation or flushing of the skin. This being true, the dilation of the surface vessels on exposure to the sun may be greatly increased on account of the atrophy of the nerves of various parts—same as the knee jerks is greatly increased at the slightest stimulation. This being the case, the intercellular spaces are much widened, thus permitting the serum to exude into the surrounding structures. As we have said, the blood has taken up the poison secreted by the parasite; this does not give a rash, so long as it is kept within the vessels which are protected by an endothelial cell, but after exudation this cell is lacking and it sets up an inflammatory condition which results in death to the part and is afterwards followed by the shedding of the skin."

As evidence of these conclusions, I give the following: Wherever amebae are found in the South, pellagra is also found, for amebae are found in every case of pellagra at some stage of the disease. It may require a severe saline purge and warming stage, but they can be found when the stools are properly searched. At autopsy amebae lesions can be found in every case of pellagra. The lesion may only be limited to a hyperemia, but that can be found. All cases treated as amebiasis improve of pellagra symptoms if treatment is properly kept up.

Pellagra prevails in the months of April, May and June, on account of the ingestion of fruits and vegetables which contain quantites of sap. Thus the mucus membrane of the gut becomes irritated and a more fertile field for the amebae is furnished. In July and August the trouble subsides in proportion as vegetables are less sappy. With the return of cooler weather in September and fresh crops of sappy vegetables, we have a return of the symptoms noticeable in the Spring. Pellagra is more generally prevalent among poorly nourished people, and those with low vitality. Also its presence is to be noted in localities where the water is contaminated, where the hygenic surroundings are poor and the use of surface water is general.

Of course there will be some to say that amebae are not the cause of pellagra, since these parasites are found in the stools of persons showing no signs of the trouble. Agreed. By the same token it might be contended that pneumonia is not caused by a diplococcus because these are to be found in the nasal and bronchial secretions of persons entirely free of pneumonia; or that tubercular germs do not cause consumption, since 90 per cent, of the people at autopsy will show tubercular lesions while only a small part of these manifest symptoms during life, nor does the comma bacillus cause cholera, for they, too, are found in the stools of well people.

It is reported by Musgrove that in an examination of 300 people in Manilla, 101 were found to harbor amebae. Of these, 61 were suffering with dysentery, and 8 of the other 40 died of intercurrent diseases during the following two months. The autopsies disclose satisfactory evidence of amebic infection in all these cases. Within three and one-half months the

remaining cases, except two discharged from the prison, were found to be suffering from amebic dysentery.

In towns with no sewerage, and with unsanitary privies, the disease is quite common and is multiplying rapidly. It has been my privilege recently to visit some towns in North Carolina and several in South Carolina, especcially in the Peedee section. That section now is very prosperous, most of the towns having sewerage and Health Boards who look after sanitation. Pellagra is almost unknown in these towns. I was able to locate a few cases about in the rural sections. In the up-country towns where there is no sewerage, where there are careless Boards of Health, and where there are numbers of mill people, I found pellagra quite prevalent. I actually found one large town where hogs were kept in pens. In this town, I am told that three years ago there were only three cases of pellagra. Last year they had between twenty-five and forty cases. This year I am told that they have more than one hundred cases of pellagra and in the probability of four or five hundred cases of diarrhoea, which is due to amebae and, in my opinion, are focal points for the distribution of pellagra. If there is anything in my hypothesis, we are facing a deplorable situation; and if the people are not soon awakened to the state of affairs and make some effort to impede the progress of this malady, it will soon equal the Black Plague in its ravages.

Even if the spoiled corn theory be adhered to, it is important that efforts be made to check the spread of amebae. For the amebae is a troublesome protozoa, whether or not it is the cause of pellagra; it should have the same attention it is receiving in Manilla by the health officers. To do this it is necessary the towns should have efficient Boards of Health with powers to take action when deemed necessary, also a competent bacteriologist should be employed to co-operate with the Board of Health. Every case of diarrhoea should be made a reportable disease and the bacteriologist should be sent to that case to examine for amebic infection. Wherever found, the case should be properly looked after and the stools should be disposed of by sanitary methods. Towns should install modern sewerage systems in the tenement districts. The landlords, where possible, should be required to put sewerage in each house. If this is impracticable, public toilets, at the expense of the town, should be placed at convenient intervals for the poor. All old privies should be removed so that there could be no chance for them to be used. At mill villages, these precautions should especially be carried out. A modern water system should be installed in each town and everybody should be required to use water from this source. All surface wells should be covered after freezing seasons. If any part of the town and mill village is off from the mains and inaccessible to this water, a surface pipe should be run for use during the Summer months. All houses should be thoroughly screened, and if a fly should enter the house, it should be chased until destroyed. Dairies should have the closest observation. As suggested by Dr. Thayer, there should be some lectures on how the people ought to care take of themselves and on dietetics.

In small towns and in rural sections, the above precautions are out of the question, and in this event we have to resort to simple methods of sanitation. Modern privies should be installed and these should be fly-proof, and the holes covered every time after use. Large buckets, which do not leak, to be emptied and disposed of by sanitary methods at least once a week, should be used. Deep pumps should be installed at every house on a farm and

wells should be done away with entirely. It is safe even in this case, to boil all drinking water after freezing season is over.

I hope every doctor in South Carolina will meet with me in Columbia next January, when the Legislature assembles, to help urge the passage of laws that will improve sanitation in the State. The best solution of this question is suggested by Dr. Price, of Baltimore. He recommends that the County Commissioners be authorized to make and enforce rules to govern the disposal of urinary and fecal matter within the county. The sanitary work of the County Commissioners should be under the supervision of a central authority and subject to being superseded by the central authority for non-performance of duty or weak administration.

FROM THE PUBLIC HEALTH REPORTS.

DEATH RATE AMONG CHILDREN.

A Great Part of the Diseases are Preventable, a Census Bulletin States.

Washington, D. C., *September 23, 1910.*—Of the total number of 732,538 deaths in 1909, in the Census Bureau's death registration area, representing a fraction over 55 per cent. of the provisionally estimated population of continental United States, no less than 196,534, or 26.8 per cent., were of children under 5 years of age, and 140,057, or 19.1 per cent., were of infants under 1 year of age. It appears in the Census Bureau's forthcoming bulletin on mortality statistics for 1909.

In general, one death out of five that occurred during the year 1909 was of an infant under 1 year of age, and a little more than one death in four, or about 27 per cent., was of children under 5 years of age. The registration cities showed slightly higher and the rural part of the registration States showed slightly lower proportions than those for the registration area as a whole.

The proportion of deaths of children under 5 years of age to the total deaths that occurred in the year is far greater than that of any other five-year period, a fact which, the bulletin states, does not indicate necessarily that the actual mortality or death rate per 1,000 persons living is higher than that at certain other periods, especially those at the more advanced ages. The early years of life, however, are of special importance, not only because of the large number of deaths that occur therein but also because, perhaps in greater proportion than that of any other period of life, a great part of these deaths are entirely preventable, and the causes which produce them are not being successfully combated. Great progress has been made in the reduction of infant mortality in England and other foreign countries in recent years, and a special organization has been formed lately in this country, known as the American Asociation for the Study and Prevention of Infant Mortality, whose object is to coördinate all the sanitary agencies available for the special purpose of reducing the number of preventable deaths of infants. It would be extremely desirable for such an important purpose that reliable statistics of infant mortality should be available for the entire registration area, and, as soon as possible, for the entire United States, with which the registration area for deaths will ultimately be coterminous. The correct statement of infant mortality, however, which is a

technical term denoting the number of deaths of infants under 1 year of age per 1,000 living births, depends on the accurate registration of births, which is scarcely to be found in the United States, the bulletin states.

"In default of the proper statement of infant mortality, based on comparison of the deaths of infants under 1 year and the registered births, recourse may be had to the ratio between the deaths of infants under 1 year of age and the population by sex under 1 year, but the latter ratio is unsatisfactory for many reasons and is not available except by process of estimation for intercensal years. A very crude means of judging of the relative condition of a given area as regards the general extent of infant and child mortality is to compare the total number of deaths of infants under 1 year and of children under 5 years of age with the total number of deaths registered for the year. Other things being equal, that is to say, with substantially similar populations with respect to age distribution and in the absence of epidemic diseases prevailing at higher age periods, the relative proportions of deaths of infants and children to the total number of deaths should show approximately the importance of infantile diseases and the feasibility of reducing the general mortality by efforts directed toward this class of disease.

"The per cent. distribution of deaths of infants under 1 year to the total deaths for all ages ranges from 11 for California to 23 for Pennsylvania and South Dakota, and for children under 5 years of age from 15 for California to 33 for Pennsylvania and South Dakota.

"The colored population of Maryland, the only state for which a comparison of white and colored is available, shows still higher ratios, namely 24 and 34 per cent., respectively. The lower proportion of deaths of infants in California may be explainable in part by the high proportions of deaths of non-residents from tuberculosis and other diseases at more advanced periods of life and perhaps the relatively small proportion of children. The high ratios for Pennsylvania and South Dakota are related also to the high birth rates of those states.

"For individual cities it happens frequently that the presence of an institution in which many deaths at advanced ages occur lowers the proportion of deaths of infants and children, although the infant and child mortality may be fairly high.

"As stated by Dr. Arthur Newsholme, medical officer of the local government board of England, in his recent report on 'Infant and child mortality:'

" 'The subject of child mortality is of national importance. One out of three deaths at all ages occurs under 5 years of age, one out of five during infancy, and one out of nine total deaths at all ages occurs under three months of age.

" 'Infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions.

" 'A heavy infant mortality implies a heavier death rate up to 5 years of age, and right up to adult life the districts suffering from a heavy child mortality have higher death rates than the districts whose infant mortality is low.

" 'A careful study of the death rate of England and Wales during the last fifty years at each of the first five years of life leaves it doubtful whether any appreciably greater selection or "weeding out" is exercised by a heavier than a lighter infant mortality. Any such effect, if it exists, is concealed behind the overwhelming influence exerted by the evil environment to which children are exposed in districts of high infant mortality. It is strictly correct, therefore, to say that a high infant mortality implies a high prevalence of the conditions which determine national inferiority.' "

WHITE PLAGUE'S DEATH RATE DECREASES.

MORTALITY FROM CONSUMPTION, CANCER, TYPHOID, ETC., IN 1909, SHOWN IN CENSUS BUREAU'S BULLETIN.

WASHINGTON, D. C., *September 26, 1910.*—While the total number, 81,720, of deaths from tuberculosis in 1909 was greater than for any preceding year and exceeded by 3,431 the number, 78,289, compiled for 1908, the death rate, in the Census Bureau's death registration States and cities, showed a decline from 173.9 in 1908 to 167.5 per 100,000 estimated population in 1909, as reported in the forthcoming Census Bureau bulletin on mortality statistics prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The 1909 rate is the lowest on record for the census registration area, although it should be remembered that the rates for this area, in which large additions were made in 1906, 1908, and 1909, may not be strictly comparable throughout the period covered with respect to constitution of population. The addition of the new registration State of Ohio for 1909, for example, by bringing in a considerable rural population with a normally low death rate from tuberculosis would tend to depress the death rate from this cause for the registration area as a whole.

It is remarkable, the bulletin states, that the aggregate of registration cities, which is not affected by the transfer of cities from the group of cities in non-registration States to the group of cities in registration States, shows practically the same number, 54,461, of deaths for 1909 as for 1908, which was 54,466, or a decrease of only 5 deaths.

DEATHS FROM TUBERCULOSIS DECREASING.

Excluding Ohio, which is shown only for 1909, 11 of the 17 registration States for which data are given presented numerical decreases in deaths from tuberculosis for 1909 as compared with 1908, the largest being for New York (415) and Rhode Island (107). Deaths from tuberculosis increased in Washington (91) and California (78) among the 6 States showing more deaths from this cause. Among the larger cities the chief fluctations were increases of 85 for St. Louis, Mo.; 61 for Minneapolis, Minn.; 58 for Toledo, Ohio, and 56 for New Haven, Conn.; significant from their small amount; while decreases of 222 occurred for New York, N. Y.; 194 for Philadelphia, Pa., and 149 for New Orleans, La.

Cancer showed a much greater proportional increase in the number of deaths than tuberculosis, rising from 33,465 for 1908 to 37,562 for 1909. The death rate increased from 74.3 to 77, the latter being the highest crude death rate from cancer thus far recorded for the registration area of the United States.

It should be remembered, the bulletin points out, that cancer is one of the diseases having a peculiar age distribution for which the study of crude death rates is apt to be especially misleading, and until a careful analysis can be made of the data, with reference to the population details available after the compilation of the census of the present year, it will be wise to limit inferences to the fact that the number of deaths so reported and the crude rate from this cause show a constant tendency to increase from year to year. The probability of more accurate statement of this disease as a cause of death by attending physicians must be taken into consideration, and the fact that the saving of lives from tuberculosis and other preventable diseases of early or middle life would leave more persons subject to cancer at the cancer ages, and thus increase the total number

of deaths from this cause and the crude cancer rate, although the actual incidence of the disease at the various periods of life may not have been altered materially.

The distribution of cancer according to location on the body shows little change except a diminution of the residual group due to more accurate statements of physicians. All certificates of death by cancer should state, whenever ascertainable, the site of origin of the disease.

DEATHS FROM CANCER INCREASE.

The uniform tendency to increase in the number of deaths reported from cancer is shown in the totals reported for the registration States and cities for 1908 and 1909. All the 17 States for which data are given for the two years showed more deaths from this cause in the latter year, except Maryland and South Dakota, for which slightly diminished numbers were returned. Of the 36 large cities only 5 showed more deaths from cancer in 1908 than in 1909, and the amounts of decrease were very small in each case. The numerical increase in the deaths registered from cancer was not large for any particular State or city, but the most impressive feature is the widespread increase shared by all states and cities with but few exceptions.

The total number of deaths caused by typhoid fever in the registration area for the year 1909 was 10,722, a reduction of 653 from the number, 11,375, recorded for the somewhat smaller registration area of 1908. The death rate fell from 25.3 to 22 per 100,000 estimated population, these rates being based on the populations as estimated upon the average annual increase between the last two censuses.

The typhoid fever death rate for 1908 was the lowest recorded since the series of census annual reports was instituted, and the rate for 1909 shows a marked reduction from that of the previous year. It is nearly one-third less than the rate shown for the five-year period, 1901-1905 (32.2), although still more than twice as large as that of England and Wales. The success already obtained in its reduction should encourage further progress in this direction until residence and travel in this country shall be as safe in this respect as in the best regulated countries of Europe, where the disease is becoming practically negligible as a menace to public health.

A DECREASE IN TYPHOID.

Each of the registration States for which data are available for the two years, except Washington and Wisconsin, shows a smaller number of deaths from typhoid fever for 1909 than for 1908, and as their population has increased during that time it is evident that the typhoid death rate has likewise decreased for each. Ohio, which was admitted into the group of registration States for the first time for 1909, is, of course, not included in this comparison. If the 1,276 deaths from typhoid fever in Ohio were not included for 1909, the group of registration States as constituted for the years 1908 to 1909 would show a reduction of 1,406 deaths from this cause. The largest numerical reduction is that of Pennsylvania (738), then Massachusetts (132), California (88), Maryland (87), and New York (73). The increased numbers in Washington (20) and Wisconsin (15), were but small and probably less than the relative increase of population.

A considerable part of the reduction in the number of deaths from typhoid fever that occurred in Pennsylvania was due to the decreased number registered in Philadelphia (188) and Pittsburg (125). Of the 36 larger cities, 19 showed fewer deaths from typhoid fever for 1909 than for 1908, and in no city of this group was there any marked increase in mortality from this cause. The largest amounts of numerical decrease occurred

in Philadelphia Pa. (188), Columbus, Ohio (135), Pittsburg, Pa. (125), Boston, Mass. (68), and Chicago, Ill. (61). The greatest relative decrease was that of Columbus, Ohio, from the epidemic prevalence shown for 1908.

FEWER DEATHS FROM INFLUENZA.

Pneumonia and Tuberculosis Still Head the List of Fatal Diseases.

Washington, D. C., *September 24, 1910.*—There was a noteworthy decrease in the number of deaths from influenza, commonly called "grip," in 1909, in the Census Bureau's death registration area, representing over 55 per cent. of the estimated population in continental United States in the year in question, it is to be seen in the census bulletin on mortality statistics for 1909, prepared by Dr. Cressy L. Wilbur, chief statistician for vital statistics, and submitted to Director Durand.

The deaths from influenza numbered 6,649 in 1909, as compared with 9,989 in 1908, in the registration area. This is considered remarkable since bronchitis and pneumonia, diseases classified under respiratory diseases but usually closely associated with influenza, showed, for bronchitis about the same number of deaths, and for pneumonia a marked increase for 1909.

Pneumonia, in the aggregate, caused more deaths than other diseases, except tuberculosis. The number increased from 61,259, or 136 per 100,000 population, in 1908 to 70,033, or 143.6 per 100,000 population, in 1909, the latter number being only 7 less than the number, 70,040, from tuberculosis of the lungs. The rates for both years were lower than for any previous year of the decade.

Diseases of the nervous system increased from 71,090 for 1908 to 74,656 for 1909, the amount of increase, 3,566, or 5 per cent., being slightly less than the average for all causes. The death rate fell from 157.9 to 153.1 per 100,000 population. The increased number of deaths in this class was due chiefly to apoplexy, those reported from meningitis showing a marked decrease.

Diseases of the circulatory system largely increased, both in the number reported, 80,607 to 90.456, or 12.2 per cent., and in the death rates, 179 to 185.4, based upon estimated population. Increased deaths and rates are shown for pericarditis, endocarditis, heart disease, angina pectoris, diseases of arteries, and diseases of veins. The greater part of the numerical increase in this class was due to organic heart disease, 5,933, or 9.9 per cent., although the proportional increase of endocarditis, 912, or 15.2 per cent., and diseases of the arteries, 2,239, or 28.2 per cent., is greater. The remarkable increase of the latter would seem to show a tendency to report arteriosclerosis, one of the chief diseases included, as a cause of death.

Diseases of the respiratory system showed about the same amount of increase as disease of the circulatory system for 1909 as compared with the preceding year. The number rose from 81,758 to 90,868, an increase of 9,110, or 11.1 per cent., while the death rate increased from 181.6 to 186.3 per 100,000 provisionally estimated population. Bronchitis showed about the same number of deaths in 1909 and 1908, with a reduction in 1909 in the death rate from 26.9 to 24.9 per 100,000 population. The increase in this class was largely due to pneumonia.

Diseases of the digestive system, chief among which is diarrhoea and enteritis affecting infants under 2 years of age, increased but slightly in the number of deaths registered for 1909 (2,323, or 2.6

per cent), while the death rate based upon an increased estimated population fell from 199.1 to 188.6. No diseases of this last class showed higher rates of any consequence, and the mortality from infantile diarrhoea, 91.5 per 100,000, was lower than that for any recent year, although not as low as that of the five-year period, 1901-1905, which was 89.4.

Diseases of the genito-urinary system increased from 51,717 for 1908 to 57,070 for 1909, the difference of 5,353, or 10.4 per cent., corresponding to the similar rise observed in diseases of the circulatory system. The death rate increased from 114.9 for 1908 to 117 for 1909. Bright's disease constituted the chief cause of death in this class, and is the only one that showed a notable increase.

Disease incident to childbirth showed a slight increase in the total number of deaths, 7,344 to 7,791, and a decrease in the death rates per 100,000 estimated population, 16.3 to 16. It should be remembered that the rates given, which are based upon the total estimated population, should be doubled to show the mortality, approximately, of females, and increased still more to show the mortality of the special class alone susceptible, namely, females of child-bearing age, or, with closer approximation, married females of child-bearing age. Such ratios can not be given until population data shall be available for comparison. Nearly half of the deaths of women that result from child-bearing are due to puerperal sepsis, an entirely preventable disease, and for which ignorant and careless midwifery is chiefly responsible.

Fewer deaths and lower death rates are recorded for 1909 than for 1908 from meningitis. So far as the varieties of meningitis can be distinguished from the returns, there would seem to be a marked remission of epidemic cerebrospinal meningitis for the past two years as compared with the years 1904 to 1907. Only 2,191 deaths from this cause were compiled for 1909, a decrease of 409 from 1908, while meningitis as a whole decreased 1,051 in the same time. The death rates from all forms of meningitis, 16.1, and from that portion compiled as epidemic cerebrospinal meningitis, 4.5, were lower for 1909 than for any year since the beginning of these reports in 1900. Fewer deaths were registered from meningitis for 1909 than in the preceding year in every one of the registration States, and in all but 6 of the 36 great cities. No city showed any considerable increase, the largest being 23 for Detroit, Mich.

Of comparatively trifling numerical importance as a cause of death, diabetes shows a slowly progressive tendency to increased mortality, perhaps dependent, as with cancer, upon the advancing age distribution of the population. The number of deaths increased for the registration area from 6,274 for 1908 to 7,024 for 1909, and the death rate per 100,000 estimated population rose from 13.9 to 14.4. The amounts of change for individual States and cities are too small to be significant, but it is noticeable that the decreased numbers were shown in but comparatively few cases.

There were 21 deaths in 1909 caused by German measles, including 1 reported as 'French measles" and 9 from 'rubella;" 84 from chickenpox; 34 from mumps; 1 from roseola; 1 from Rocky Mountain spotted fever (Garfield County, Colo.); 3 from glanular fever; 10 from beriberi (8 Japanese, 2 Chinese, all on the Pacific coast, except 1 Chinese at Bayonne, N. J.).

606.

Is there really something new in the treatment of syphilis? If we may judge from the enthusiastic reports now coming out of Europe and some parts of America, there is. However, it behooves us to be rather wary before we accept without question the statements which are being bandied about—we still have rather fresh in our minds the wonderful false hopes which were raised relative to Baird's trypsin treatment for cancer.

It is worthy of note that Ehrlich himself, the originator of the already famous 606, cautions moderation in the passage of judgment on this new remedy. He avoids extravagance in his claims and, by so doing, again demonstrates the greatness and breadth of his viewpoint. Without doubt, he has made a great discovery and has already worked a great advance in therapy; but likewise without doubt the remedy is still under adjudication and is not yet in such a position as would justify its being hailed as a sure cure for lues. So far as we may judge the remedy is a most potent one—in one series of cases, 82 out of 83 cases responded immediately by a disappearance of spirochetae and a mitigation of symptoms, and equally favorable reports came from a series of several thousand cases experimented with in clinics abroad. As to the end results, no judgment can yet be given but the promises are excellent so far as can at present be seen.

Some strains of spirochetae seem to be resistant to the arsenic preparation as some strains are resistant to mercury. However, if even 90 per cent. of cases of syphilis could be cured by Ehrlich's 606 or by any other remedy, especially by one hypodermic injection, Professor Ehrlich has conferred a boon upon humanity which will be recorded in future years as the equal of Jenner's vaccination or of Lister's antisepsis. We devoutly hope the reports are true. If they are, Syphilis is robbed of its terrors and a vast proportion of our race can be made comparatively happy. But caution is necessary in the acceptance of the statements, or else an orgy of indulgence and an era of repining might result.

CULTIVATION OF TISSUES OUTSIDE THE BODY.

Another step forward in the study of disease was reported recently in a modest account by Carrell and Borrows (Journal A. M. A., Oct. 15, 1910) of their experiments with the cultivation of adult tissues outside the body. This successful experiment might be considered as far reaching as the cultivation of bacteria. To be able to grow individual tissues *in vitro* and to study their growth under the microscope in itself is wonderful enough, and in addition to be able to inoculate these tissues with diseases, as cancer, and to study the changes so produced, is still more important. It is epoch making.

Carrell and Borrows have grown various tissues in a plasmic medium, and have watched their growth. They have been enabled to develop typical kidney tubules and tissue, typical thyroid tissue, connective tissue, etc., and have been able to carry on successive generations of cells in these cultures. They have inoculated these cells with sarcoma, and with success.

It is sufficient to start the most varied conjecture as to what the results of their work may be.

For instance, should we let our imagination run riot, we might easily look forward to the unlimited production of certain tissues *in vitro* with organo-therapeutics the great beneficiary; or to the supplanting or replanting of such healthy tissues in the place of old, worn out, or diseased ones. Or we might predict a selected type of human beings from certain selected cultures of ovaries, and so it goes. As a matter of fact, however, the probabilities are that the matter will rest as a laboratory curiosity for many years, or at most as a means for the study of histology and of pathology.

MISTAKES IN DIAGNOSIS.

In the same issue of the Journal of the A. M, A. appears a study of mistaken diagnoses by Dr. Cabot, of Boston. With such men as Osler and Cabot confessing to a large proportion of failure of diagnosis (See Osler's Practice of Medicine, article on yellow fever), it is certainly gratifying to us lesser lights to find that we are not such hopeless idiots after all.

One of the most painful sorts of arrant idiot with which we medical men have to meet is the cocksure diagnostician, who never has known himself to have made a mistake. Occasionally we run across such a one, and usually find a loud-voiced, self-satisfied individual who is quite sure that he has all medical lore at his finger tips. He is usually only superficially informed and fundamentally ignorant—he has never learned that he knows little, nor that knowledge brings humility.

All of us make mistakes, all of us err, but most of us learn from our errors and are the better for them. Any one of us who is never conscious of having erred is a public menace and had better quit the practice of medicine. "He that knows not and knows not that he knows not is a fool—shun him." A man is a fool, not when he makes a mistake, but when he does not profit by his experience and avoid the same errors in future.

MEDICAL MATTERS AND LAY MAGAZINES.

For several years there has been an increasing tendency among the lay magazines to deal with medical or semi-medical matters in their columns. A gradual change has come in the tone of these articles and a much cleaner and clearer outlook has been achieved by their writers than formerly. We are glad to note that some of the writers are investigating some of the so-called curist cults and are exposing them mercilessly. In Hampton's Magazine for October, 1910, is an article entitled "Malicious Animal Magnetism," which deals with Christian Science and with its founder and disciples in a coldly judicial and impartial manner and which ruthlessly lays bare the cant, the hypocrisy and folly of the cult. Of course, to medical men, this is no new tale, but to the laymen the exposure will probably prove of value. We suggest that such practitioners as are annoyed by the spread of this cult might recommend the perusal of this article by such laymen as show a tendency to go astray and follow after such false leaders as Mrs. Eddy and her clan.

In the November issue of the same magazine there is an article by Dr. Woods Hutchinson, written in his inimitable style on "The Passing of Pills and Powders." Dr. Hutchinson, like "Mark Twain," has the happy faculty of driving home good points with a delightfully humorous style.

It is a pleasure to see Hampton's in the line with some other magazines in this work of educating the public.

When Collier's Weekly, two or three years ago, began the crusade against patent medicines, they started a movement, the value of which was only dimly realized. It required a deal of moral courage to institute such a campaign, and the originators as well as those who had the courage to keep up the fight deserve unbounded praise. They wrought a world of good. Not only in this particular line but also in regard to spiritualism, faith cures, and a host of other fakes, has the investigation proceeded. Other magazines have taken the same course, and now it is common to see hygiene and sanitary discussions in non technical language, as well as exposes of frauds and fakes. The Ladies Home Journal, The Saturday Evening Post, Everbody's and a number of other high class magazines are adding their quota. The result is bound to be good.

Another noticeable feature in these articles is the gradual diminution of the hysterical exaggeration formerly seen and the more sane, quiet discussion of these topics. By this sanity panics are averted and the real status of various epidemic diseases are pointed out. It is to the credit of the medical profession that such advance has been made that most epidemics have been confined or averted through preventive measures; and it is very much to the credit of the lay press that they are ceasing to make capital of the ignorance of the masses by making scare heads of disease.

Of course, we meet from time to time with certain journals which show a tendency to decry medical progress, or which advance absurd hypotheses and uphold them with all their might. Chief among these are the journals which oppose vivisection and vaccination. If it were not pitiful, their position would be absurd. They speak from the depths of a colossal ignorance and yet speak as if with authority—consequently, being read by a large number of people, they work incalculable harm. It is a matter for regret that such an excellent publication as *Life*, one so independent and, ordinarily, so evenly balanced in its view points, should have become imbued with such retrogressive ideas as to champion antivivisection and anti-vaccination. It is but a step from this position to the old days of faith in charms and of shot gun quarantine.

While we wish these anti-vivisectionists no harm, we cannot help wondering whether they would refuse to have transfusion done by Crile's method should one of their loved ones be in danger of death, or if they would refuse to allow the use of Flexner's serum should one of their children develop epidemic cerebro-spinal meningitis.

But these reactionaries are fortunately few, and the large proportion of the magazines are doing excellent work. The few who are opposed to progress, we hope are sincere in their convictions, for if they are not, they have a grave charge to face—that of indirectly causing useless suffering and even numerous deaths.

SOCIETY REPORTS.

Abbeville, no report, 5th month.
Anderson, no report, 7th month.
Aiken, no report, 3d month.
Bamberg, no report, 7th month.
Barnwell, no report, 7th month.
Beaufort, no report, 7th month.
Charleston,
Cherokee, no report, 3d month.
Chester.
Clarendon, no report, 6th month.
Colleton, no report, 6th month.
Darlington, no report, 7th month.

Dorchester, no report, 7th month.
Edgefield, no report, 7th month.
Fairfield, no report, 7th month.
Florence, no report, 7th month.
Georgetown, no report, 3d month.
Greenwood, no report, 7th month.
Hampton, no report, 7th month.
Horry, no report, 7th month.
Kershaw, no report, 7th month.
Laurens, no report, 7th month.
Lee, no report, 7th month.
Lexington, no report, 2d month.
Marion, no report, 3d month.
Marlboro, no report, 7th month.
Newberry, no report, 3d month.
Oconee, no report, 3d month.
Orangeburg, no report, 7th month.
Orangeburg, Calhoun, no report, 2d month.
Pickens.
Columbia, Richland County, no report, 3d month.
Saluda, no report, 7th month.
Spartanburg.
Sumter, no report, 7th month.
Unoin, no report, 7th month.
Williamsburg, no report, 7th month.
York, no report, 3d month.

Charleston, S. C.—Several interesting papers have been read and cases reported at the recent meeting of the Medical Society. Dr. Kollock reported two cases of steel particles penetrating the eyeball. Dr. Rees reported a case of gallstones presenting only digestive symptoms and Dr. Sosnowski reported two cases of adherent pericarditis, one of them tubercular; Dr. Townsend, a mastoid case presenting all the symptoms in exaggerated form and Dr. Matthew Moore an unusual typical case of amyotrophic lateral sclerosis.

On October 15th, the paper of the evening was read by Dr. Baker on the "Post-operative Treatment of Surgical Cases," provoking much favorable discussion.

Lately, the Society has lost two members by death, Dr. B. Wagner Hunter, a man of extensive practice in this city and noted for his skill as a physician, his charity and his breadth of human feeling. On Oct. 11th, the Society lost Dr. J. Somers Buist, one of the most distinguished physicians of South Carolina and one of the few remaining surgeons of the Confederate Army. Dr. Buist was a man who had contributed much towards medical science in this State and was noted not only for his professional skill but for his distinguished personal attainments and as a teacher of medicine. He is mourned not only by a host of friends and patients, but by many of the younger members of the profession, who remember him as a beloved teacher.

W. CYRIL O'DRISCOLL,
Sec.

IN MEMORIAM J. SOMERS BUIST, M. D.

The following was presented at the last meeting of the Society:

"When you have lived your life,
When you have fought your last good fight and won,
And the day's work is finished, and the sun
Sets on the darkening world in all its strife;
Ere the first touch of sleep has dulled the brain,
Ere the heart's springs are slow and running dry,
When you have lived your life,
T'were good to die."

We appreciate and endorse the truth of the poet, as we gather around the bier of our comrade, Dr. John Somers Buist, at the close of his "three score years and ten," a life crowded with activities of all sorts, and successes more than ordinary. True, the gloom and isolation of the sick room were his for three long years, but his busy work was finished, and we bow to the decree of a kind and merciful Creator, always trusting when we can not see.

Dr. Buist was a home product, and served the major part of his life in and for Charleston. Born on November 26, 1839, he received his literary and medical education at the Charleston College and at the South Carolina Medical College, leaving only at the call of the State to repel the presence of the invader. For four full years he did the full measure of his duty as a medical officer, first with the Hampton Legion, and afterwards with Haskell's Artillery. The seven

days' fight around Richmond, and the siege of Petersburg were active duty enough for one man, but they were but a small portion of what fell to his lot; these he performed with his accustomed energy and devotion.

Upon the restoration of peace, he returned to this city. To the duties of a practitioner of medicine, he added those of City Physician, member of the Board of Health, Surgeon of the Roper Hospital and of the U. S. Marine Hospital, Adjunct Professor of Materia Medica and of Clinical Surgery at the Medical College, Professor of Surgery, Medical College, President of the Medical Society of South Carolina and of the South Carolina Medical Association.

Among his non-professional activities, he became Vice-President of the New England Society, Commissioner of the Charleston Orphan House, Trustee of the College of Charleston, President of the Alumni Association, Member of City Board of Health, Director in the Charleston Consolidated Railway, Gas and Electric Company, and Director of the Dime Savings Bank. In Masonry he attained great success, being elevated to the 33rd degree Scottish Rite.

After life's fitful fever, he sleeps well.

The Medical Society of South Carolina records its deep sorrow at the loss of its comrade, Dr. J. Somers Buist, and dedicates a page in our Minute Book to his memory.

2nd. We tender to his bereaved family our heartfelt sympathy.

3rd. Resolved, that a copy of this memorial be sent to the family and be published in the Journal of the State Medical Association and in the daily press.

Manning Simons, M. D.
John L. Dawson, M. D.
T. Grange Simons, M. D.

Chester, S. C., Oct. 8, 1910.

The October Meeting of the Chester County Medical Society was lacking in nothing, except a full attendance.

After the routine business Dr. W. B. Cox read a very interesting paper on "Chronic Gastritis," which had many good points for those who had not given the subject especial study.

Dr. C. A. McLurkin presented a case of infantile spinal paralysis, which in view of the abundant literature recently upon the subject, was very interesting and was freely discussed. Dr. McLurkin has had a number of these cases in the past six or eight months.

The Society has lost two of her oldest members in the past year—Dr. A. F. Anderson and Dr. W. J. W. Cornwell. Both of these had spent more than a half century in the active practice of medicine. There are few men in the State who have had so long a length of service.

During the summer Dr. J. G. Johnston has taken special work on the Eye and Ear at Tulane.

Dr. S. W. Pryor spent some time at the Mayo Clinic and in Chicago.

W. R. WALLACE,
Secretary.

IN MEMORIAM.

Whereas, It has pleased the Infinite Ruler to remove from our Society, our oldest and most honored member, Dr. W. J. W. Cornwell; and,

Whereas, his life was spent in modest endeavor to relieve human suffering, without any effort to accumulate unto himself anything but the good will of his people and knowledge pertaining to his chosen profession, gained through the many years of experience, therefore,

Be it Resolved, that this Society, profoundly grieved in the loss it has sustained, express its high esteem for

his unselfish life and noble character; and,

Further Resolved, that these resolutions be inscribed in the Minutes of the Society; that a copy be sent to the South Carolina Medical Journal for publication, and a copy be sent to the bereaved family.

H. E. McConnell,
J. G. Johnston.
W. R. Wallace,
—*Committee.*

The following program was received from The Columbia Medical Society, Dr. Knowlton's Office, Columbia, S. C.

Officers: President, Samuel E. Harmon, M. D.; Vice-President, Robert A. Lancaster, M. D.; Secretary, Mary R. Baker, M. D.

Programme: Monday, October 10, 1910, 9 P. M. Report of Clinical Cases—Enlarged Spleen, Dr. H. W. Rice; Poliomyelitis, Dr. J. J. Watson. Voluntary Reports—Paper, Electricity in the Treatment of Some Uterine Diseases, Dr. L. K. Philpot; The Part Played by the Mouth in the Digestive Process: Our Duty and Relation to Same, Dr. F. M. Durham.

Voluntary Papers—Business, Adjournment, Refreshments.

The Pickens County Medical Society met Oct. 5, 1910. Vice-President Dr. C. N. Wyatt called the meeting to order; Dr. W. M. Sheldon, President, was absent. Dr. H. E. Russell was elected to read a paper at the next meeting of the fourth District Medical Association. Dr. J. E. Allgood was elected alternate. Dr. W. A. Tripp, of this Society, is President of the Fourth District Medical Association. The members of this Society are very enthusiastic over the Fourth District meeting and anticipate a nice time. Dr. Curran B. Earle, of Greenville, S. C., delivered a very forcible address at this meeting on the Improvements in Modern Surgery, and Western Hospitals, as I have seen Them. On motion of Dr. H. E. Russell, Dr. Earl was thanked for the able address. The Fourth District Medical Association meets in Greenville, S. C., Nov. 21, 1910.

At the October meeting of the Spartanburg County Medical Society, presided over by the President, Dr. A. R. Fike, the following members were in attendance: Drs. Black, Boyd, W. H. Chapman, Gantt, Jefferies, Lindsay, D. H. Smith, D. L. Smith, W. A. Smith and J. R. Sparkman. As this meeting was the one appointed at which to discuss raising Spartanburg's portion of the Sims Monument fund, the members of the General Assembly from this County were invited to attend in order that they might be familiar with the subject when the bill is introduced in the Legislature. Mr. J. W. Mansfield, however, was the only member of this body present and promised to do what he could for this cause. Dr. Jefferies read a very interesting and full sketch of the life and work of the great surgeon, J. Marion Sims. As the attendance at this meeting was so small it was decided to continue the discussion of raising our contribution until the annual meeting in December, when the attendance is generally large. Dr. Wm. J. Keller was accepted as a member of this society, his membership having been transferred to us from the Dillon County Society.

L. ROSA H. GANTT,
Secretary.

ANNOUNCEMENT.

AMERICAN PUBLIC HEALTH ASSOCIATION.

The United States of America, the Dominion of Canada, the Republic of Mexico, the Republic of Cuba:

Meeting in 1911, Havana, Cuba, December 4th to 9th.

Office of the Secretary, Washington, D. C., November 5, 1910.

To the Editor:

The American Public Health Association will hold its 1911 meeting in Havana, Cuba, from December 4 to 9. The prospect of having the Association again in Havana has aroused the warmest interest among the physicians there, the Secretary of Sanitation, Dr. Varona, being particularly interested. The Academy of Medicine has offered its building for the general section meetings. The Hotel Sevilla will be the headquarters of the Association. A few years ago a meeting in Havana would probably have discussed yellow fever. The changed situation in Cuba with respect to that disease is shown by the fact that yellow fever has been so completely extinguished on the island that the local physicians desire rather that tuberculosis be given the most prominent place. The question of the milk supply will also be considered.

It is hoped at this meeting that the recently organized Sociological Section, and the Section on Sanitary Engineering, which was tentatively authorized by the Milwaukee meeting, may be put upon substantial foundations.

PERSONAL ITEM.

Dr. C. C. Haskell, of the research department of the Lilly Laboratories, has returned to his office in Indianapolis after an absence of about three months. Dr. Haskell spent the summer studying infants' diseases in the Hospitals of New York City.

CURRENT MEDICAL LITERATURE.

THE ANESTHETIST; A SPECIALIST.

BY C. O. ABERNETHY, B. S., M. D.
(The Southern Medical Journal, Aug., 1910.)

This is a day of specialists. Men are beginning to realize that there is a limit to what one mind can accomplish and are therefore confining their work to the special branches of their professions. This idea has been so much emphasized that the internal medicine man is becoming as much a specialist as the ear, nose and throat man. Until recent years the subject of the administration of general anesthetics was not given the serious consideration that other professions of our profession were; the majority of the surgeons being content to turn the anesthetic over to the least experienced of their assistants while they themselves were perfecting their technique in operating; thus was neglected one of the most important branches of our profession. The greatest advantage to the surgeon in having a trained anesthetist is that he is relieved of all the responsibility of the anesthetic and he can do better work because the patient is kept more evenly anesthetized.

Why have not more men entered this branch of the profession? One

reason is that the surgeons have not in the past realized the importance of having a trained anesthetist. Competent men have refrained from entering this field because the fees were not sufficient. An anesthetizer cannot do very much work outside. Most surgeons allow their anesthetizer a smaller fee than their first assistant, forgetting the fact that the anesthetizer's duties and responsibilities are much more important than his assistant's. In fact they are second in importance not even to the surgeon himself. On account of this small fee nurses are being used in some places as anesthetizers. Women when they are competent make good anesthetizers, because they have more sympathy as a general rule than men, and have that ease of approaching a frightened patient which is such a great advantage. Still, before they are allowed to become anesthetists they should be required to take a course in medicine, because, on their judgment and skill depends the life of the patient in many instances.

STREET DUST AS A FACTOR IN SPREADING DISEASE; METHODS OF REMOVAL.

BY JAMES M. ANDERS, M. D.

(New York Medical Record, Oct. 1, 1910.)

It may be put down as an axiom that cleanliness of our city highways and freedom from street dust is not less important to the municipality than a pure drinking water. supply The question of the noxious influences exerted by street dust may be conveniently considered under two heads: (a) the effects of the inhalation of non-infectious street dust; and (b) street dust as a vehicle for conveying disease germs, or the influence of infective dust. Street dust deposits contain mineral particles, which form mechanical irritants, organic matter, both animal and vegetable, of numerous and widely different conditions and character. The organic substances, if allowed to lie in the streets for too long a period, particularly during the warm season, undergo more or less decomposition, giving rise to other and yet more powerful deleterious products. There is still another constituent of dust which it should be the pride of every community to eliminate, since its ill consequences are far-reaching; I refer to dessicated human expectoration. Little does the general public appear to understand that in street spitting we have one of the worst examples of the violation of sanitary laws and decency that could be cited. Thompson observes that it is no exaggeration to state that nine-tenths of the acute inhalation diseases and chronic catarrhal diseases are due chiefly and directly to dirt inhalation.

In view of the overwhelming mass of evidence, which proves the presence of lurking dangers of street dust, a warfare against this form of air poisoning until victory is assured would be both timely and of the utmost importance. Among measures advised by a committee appointed by the Stuttgart Medical Society in 1907, to discuss the question of the prevention of dust were to keep the streets carefully cleaned and warning notices in regard to the dangers of dust to be placarded by the Board of Health. Slack says: "Street sweeping at night, such as is usual in market districts, is to be commended, thus avoiding the stirring up of large quantities of dust during the day when the streets are crowded. Oiling and watering the streets are wise sanitary precautions, and money spent on these means of keeping our streets free from dust is saved a hundred times over in the health of the people." It is in accordance with the eternal fitness of things that the American Climatological Asso-

ciation should wage a campaign against dust-laden street air, and thus increase its powers of administering to the welfare of the general public.

CULTIVATION OF ADULT TISSUES AND ORGANS OUTSIDE OF THE BODY.

BY ALEXIS CARREL, M. D. AND MONTROSE T. BORROWS, M. D.

(Journal of The A. M. A., Oct. 15, 1910.)

The solution of many problems of human pathology depends, in a large measure, on the finding of the still unknown physiologic laws of generation, growth and evolution of cells. A few weeks ago, we began to investigate systematically one of these future methods, namely the cultivation of adult tissues outside of the body. In the first part of the work we found and studied the growth of adult tissues outside of the body. In the second part we attempted to cultivate thyroid cells in series, and also to activate the growth of a tissue by passage from one plasmatic medium to another. Connective tissue, cartilage, peritoneum, bone marrow and bone, skin, thyroid gland, spleen, suprarenal gland, kidney, ovary and lymph gland, were all cultivated successfully. Tissues like cartilage, and even renal substance, can be caused to develop in something like normal manner under entirely new conditions.

The main results of these observations can be summarized in a few words: Adult tissues and organs of mammals can be cultivated outside of the animal body.

The cultivation of normal cells would appear to be no more difficult than the cultivation of many microbes. It remains, however, to be determined whether continuous series of cultures can be secured. This method, therefore, can be used for the study of many important problems. For instance, it may render possible the cultivation of certain micro-organisms in conjunction with living tissue cells, or alone in plasmatic media. Then it will be of great value in the study of the problem of cancer. We have already succeeded in inoculating a plasmatic medium with sarcoma of the fowl; cells appeared in the surrounding plasma after nine hours and the culture is growing actively at present. We can assume therefore, that the perfection of the method of cultivating adult tissue of mammals outside of the body will be helpful in the exploration of unknown fields of human pathology.

ANAPHYLACTIA.

A PHENOMENON CAUSED BY PROTEINS OF TOMATOES, CRABS, BERRIES, BIVALVES, EGGS AND OTHER FOODS.

A PRELIMINARY NOTE. BY LEONARD K. HIRSHBERG, M. D

(The Journal of The A. M. A., Oct. 15, 1910.)

The causes of the various urticarial diseases are usually classified as predisposing, external, and internal. The predisposing causes have been called "susceptibility," "indigestion," "infancy," "rickets," "jaundice," etc.

Now, it is my assumption that certain individuals are sensitized to tomatoes, grapes, berries, or other specific protein, and the absorption of their particular protein from the food brings on an attack.

The recognition of the offending protein whether its invasion is by mouth or by injection, whether it is by the olfactory route or by the circulation direct, is of such clinical importance that internists dare no longer ignore the applications of our present knowledge of anaphylaxis.

In all of the dermatologic clinics of sea-coast or river towns, there is

seen in the crabbing season an erythematous, progressive cellulitis of the hands. "Crab-hand" has been a mystery, as far as its immediate etiology is concerned.

One individual may pass through different degrees of prophylaxis (immunity) alternately with states of anaphylaxia. Thus a tomato may at one time cause no symptoms, at another time in the same individual, erythema multiforme; again angioneurotic edema. The curative treatment is to remove the offending dietetic irritant.

GANGRENE OF THE LUNG WITH TRICHOMONAS INTESTINALIS AS THE ONLY APPARENT ETIOLOGIC FACTOR

Report of A Case.

BY G. C. DOOLEY, A. B. M. D.,
(Journal A. M. A., Oct. 15, 1910.)

Instances of the invasion of the respiratory tract by mastigophora are very few, so that a report of a case of gangrene of the lung in which the trichomonas was the only discoverable etiologic factor may find a place in the rather scanty records of pulmonary disease due to or associated with this protozoon.

This is the evidence in the report of the following case:

History. The family, personal and social histories present nothing pertinent to the case of the patient, Private E. C. He had had chills and fever in July, 1909. On June 21, 1910, he was admitted to the post hospital with the same trouble, diagnosed and treated as tertain malaria, and was discharged as cured July 3, 1910. In the Winter of 1909-10 he injured the left side of his chest by falling on the pommel of his saddle while mounting his horse and was confined to the hospital for a week.

Present Illness. July 10, 1910, the injured side began to give him trouble under severe drill, and two days later he began to have a great deal of pain in the left side, and felt sluggish. He also had headache and dull ache over the root of the left lung, which continued throughout the illness. On admission, July 15, 1910, besides the pain, he felt weak and was expectorating blood-tinged sputum.

Examination. Temperature was 101.8 F., respirations 20 and pulse 80 per minute. There was an area or dullness between the left anterior and posterior axillary lines extending from the third to the fifth rib. Course bubbling rales were heard throughout the left chest; otherwise the physical signs were negative. The blood, urine and feces were normal; the latter contained no parasites. The sputum was thin at first, white, with blood-streaks, later much increased in quantity, dark, rusty, prune-juice color and foul odor. It contained elastic tissue, masses of epithelial cells, Charcot-Leyden and hematin crystals. Besides a few bacteria, there were numerous actively motile trichomonades.

During the first twenty-four hours the sputum amounted to but 1 fluid ounce or so, but during the course of the disease it increased to between 3 and 4 fluid ounces per day. During the last week of the disease the amount of sputum gradually lessened, the foul odor disappeared and the quantity of blood in it was reduced until there were only a few corpuscles present. In every examination numerous active trichomonades were noted until the last week of the disease, during which they gradually decreased in number and lost their motility. There were still a few present in the sputum on the day of the patient's discharge (August 5, 1910) from the hospital. At no time were there more than a few bacteria present in the sputum.

Course of the Disease. At no time during the patient's confinement in the hospital did the temperature rise above normal after the first twenty-four hours, but ranged between 97.6 and 98.5 F. The pulse and respiration were normal throughout. The sputum and pain in the side were the only noteworthy symptoms, and on discharge (August 5, 1910) only a slight soreness over the root of the lung remained, the foul and bloody sputum and pain having quite disappeared. The patient has reported twice since discharged, at intervals of a week, for observation, and at the last visit seemed to be in perfect health.

A STUDY OF MISTAKEN DIAGNOSIS.

BASED ON THE ANALYSIS OF 1,000 AUTOPSIES AND A COMPARISON WITH THE CLINICAL FINDINGS.

BY RICHARD C. CABOT, M. D.

(Journal of The A. M. A., Oct. 15, 1910.)

The subject of this paper was suggested by my experience in a weekly conference with senior medical students at the Harvard Medical School. At this conference the organs obtained from all the autopsies performed at the Massachusetts General Hospital during the week preceding are brought before the class. I never let anyone

inform me beforehand of the autopsy findings. Dr. Oscar Richardson reads the autopsy protocol and demonstrates the organs.

I must first explain, as nearly as I can, the plan followed. In each case I have gone behind the recorded diagnoses and endeavored to reason out what diagnosis was justified by the facts known during life. In some cases, it has been clear, after a little study, that the clinical diagnosis actually written on the records had been hurriedly filled in by an interne and did not represent the opinion of the attending physician. I recall one case in which the clinical diagnosis still stands as "neurasthenia" although the autopsy record shows that the patient died of cancerous pleurisy. "Burnt-out" or obsolete lesions are often undiscovered during life and lead, therefore, to a discrepancy between ante-mortem and post-mortem findings.

In order to keep this paper from extending beyond its already inordinate length, I shall try to condense the rest of my data into maxims which should have the merit of brevity if not of wit or clearness, incorporating my summary and conclusions with them.

1. Never make a diagnosis of uremia in a patient seen for the first time in an acute illness characterized by coma or convulsions. Such diagnoses rarely turn out right.

2. Never make a diagnosis of ptomain poisoning without definite chemical evidence. General peritonitis or a tabetic crisis is usually the correct diagnosis.

3. Make no diagnosis of hysteria, neurasthenia or psychoneurosis in a patient whose symptoms begin after the forty-fifth year. The actual diagnosis is likely to be arteriosclerosis, hyperthyroidism, dementia paralytica or pernicious anemia.

4. Diagnoses of tertian malaria in patients whose symptoms resist quinine more than three days are almost invariably wrong.

5. Bronchial asthma, beginning after 40, usually spells heart or kidney disease.

6. Epilepsy, beginning after 40, usually means dementia paralytica or cerebral arteriosclerosis.

7. Typical migraine is often a symptom of unrecognized brain tumor or chronic nephritis.

8. Most cases of "bronchitis" means tuberculosis, broncho-pneumonia or multiple bronchiectasis cavities.

9. Aside from the immediate results of acute infections (such as scarlet fever, diphtheria, tonsillitis and pneumonia) "acute" nephritis usually turns out to be chronic.

10. Acute gastritis and gastralgia usually mean appendicitis, gall-stones or peptic ulcer.

11. Pus in or near the liver is often mistaken for serous or purulent pleurisy, for it produces identical signs in the right chest posteriorly.

12. An X-ray of the shin-bones may give the first hint of an active syphilitic process in the joints or internal viscera.

13. Systolic or presystolic murmurs, heard best at the apex of a markedly enlarged heart, rarely mean valve lesions.

14. Diastolic murmurs at the base of the heart are very uncertain evidence of aortic disease unless there are characteristic jerkings in the peripheral arteries.

15. Myocarditis is a diagnosis which should never be made clinically.

16. Besides the direct evidence afforded by the history of the various methods of physical and chemical examination, diagnosis profits much by taking account of certain familiar pathologic chains or groups of them. Given one or two members of the group, it is often wise to act as if the other were present, provided, of course, that the

direct evidence in no way contradicts us.

17. Cerebral localization applied to tumors, hemorrhages and the like, is still in its infancy.

18. The clinical diagnosis of the so-called diseases of the blood is the easiest and safest in medicine.

MEDICO-LITERARY NOTES.

(New York Medical Journal, Oct. 22, 1910.)

Good Housekeeping celebrates its silver anniversary with the October issue. Practical Victories of Medical Science, by Dr. Thomas Lathrop Stedman, is a popular history of a few things accomplished by the profession despite general indifference or worse. For More Brightness in the Home is a satirical article by Wallace Irwin, making fun of the efforts of young wives to make home attractive; Nathan Straus, in A Message to Housekeepers, tells of the advantages of pasteurized milk; The Child's Bill of Fare, by Dr. H. H. Hawxhurst, is not a criticism of the popular restaurants, but a useful list for mothers. It will be seen that medical lore has much to do with successful housekeeping.

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We have stated that, much to our peace of mind at least the nice looking orphans are quickly rescued from asylums and adopted by carefully selected guardians, and have wished that the plainer ones and the crippled could have the blessings and advantages of family life, which they would probably repay by manifesting mentalities greater than those of their more beautiful rivals. The October *Delineator* offers six children for adoption, but they are so charming in appearance that we need hardly worry over their future.

In the October *Everybody's*, The Poison Bugaboo, by Samuel Hopkins Adams, dissipates several superstitions of our boyhood and states very truly that the most dangerous poison bearing animal we have is the mosquito, too long merely a subject of careless joking on our part.

THE PRESENT ORGANIZATION AND WORK FOR THE PROTECTION OF HEALTH IN THE UNITED STATES

(U. S. Treasury Dept. Bulletin)

BY WALTER WYMAN, SURGEON-GENERAL, U. S. PUBLIC HEALTH AND MARINE SERVICE.

In describing the present organization and work for the protection of health in the United States, in accordance with the programme of this thirty-eight annual meeting of the American Public Health Association, I shall begin at the outmost circumference of the influence of the United States organization, viz., the protective measures at foreign ports and in our insular possessions. If you should visit Japan and China, you would find medical officers of the Public Health and Marine Hospital Service attached to the United States consulates. These officers keep themselves informed of contagious diseases in these cities and the surrounding country. They are required to sign a bill of health which certifies that all the regulations required to be enforced at foreign ports on vessels leaving for the United States have been complied with. Officers are also located at Calcutta, Naples, and Libau, Russia. Other sanitary ports where these guards may be found are Santiago, Chile; Calloa, Peru and all the ports of Central America. In the Philippine Islands, where the government is by commission and a legislature, much

work of value to the public health is performed in the bureau of science under the insular government. In Hawaii you will find ten medical officers conducting the national quarantine. In Porto Rico there are nine officers. In the Canal Zone there are two commissioned officers.

The Public Health Service may be found in the States investigating other diseases than those named in the epidemic law. In various States of the Union there are thirteen establishments engaged in the production of vaccines, antitoxins and serums which play so important a part in modern therapy. In passing through the States toward the national bureau at Washington, it will be observed that each individual State has its own health department or State board of health. There are forty-six States and therefore forty-six State boards of health. In the District of Columbia is the hygienic laboratory, exclusively for public-health investigations. Officers are detailed to receive instruction in this laboratory, thus enhancing the scientific attainments of the corps. The Bureau of the Public Health and Marine Hospital Service at Washington consists of seven distinct divisions, each presided over by a commissioned medical officer. These divisions are: 1. Scientific research and sanitation; 2. Foreign and insular quarantine and immigration; 3. Domestic (interstate) quarantine; 4. Sanitary reports and statistics; 5. Marine hospitals and relief; 6. Personnel and accounts; 7. Miscellaneous division.

Dr. Francis R. Hagger, Professor of Genito-Urinary Surgery, George Washington University, has written a very valuable and instructive paper on STERILITY IN THE MALE, operative treatment of the same, with report of cases. The Ohio State Medical Journal, September, publishes the paper in full from which we take the following extract:

"Until the last few years whenever a man would present himself to a physician complaining of a fruitless marriage, the wife was looked upon as physically incompetent. With the advance in genito-urinary surgery, the condition of the semen and seminal tracts have been carefully studied with the result of proving that in unfruitful marriages the husband is the sterile member of the family in about one case in six. Sterility in the male is due first to aspermia; second, to azoospermia; third, to oligsopermia; fourth, anatomical abnormalities.

A few cases have been cited where none of the reasons cited would hold, but these have been explained by the belief that the semen was perverted in quality or deficient in quantity through depression or cachexia. Then, too, we are forced to consider the theory of lack of affinity of the one cell for the other.

In bilateral syphilitic and tuberculous disease, a considerable portion are sterile. Dr. Martin of Philadelphia gave an impetus to the more careful consideration of the male as a possible factor of childless marriages. A robust appearing man of 38, married several years, wife had been examined and no cause for sterility found, was operated upon by Dr. Martin. Patient had had gonorrhea with double epididymitis some years before. Examinations after operation revealed live spermatozoa. Patient's wife has since given birth to a child. The operation is a minor operation. It cannot compromise the function of an organ that has already proven functionless. The only chance for recovery of patients suffering from sterility due to obstruction of the epididymis is operative.

MATHEMATICS AND MEDICINE.

BY CAPT. LOUIS C. DUNCAN, MEDICAL CORPS U. S. ARMY.

(The Military Surgeon, Oct., 1910.)

It might be thought that there is little relation between two sciences so widely separated in object and method as mathematics and medicine. The point at which they meet is that where figures are requisitioned to show the quantities and ratios of disease, injuries and deaths. We see long columns and extensive tables of figures arranged to present readily to the eye the death rates in various places, the number of various diseases, and many other medical and sanitary conditions.

Not all medical men are mathematicians and consequently these tables are not always logical. How do these errors arise and what is the remedy? It is one of the simplest facts of mathematics that in order to measure two unequal quantities a single fixed standard is necessary. To make any comparison we must have one standard of measurement. In this case it is not necessary to search for some complex value. We already have a standard universally used in time of peace; it is the number of deaths in a thousand men in one year. In time of peace no one thinks of comparing death from disease with death from accident.

One army has twice as many deaths from disease as in battle; another army has four times as many. What follows, what conclusions may be drawn as to the relative sanitary services? Absolutely none. This system of comparison should be abandoned once for all.

The idea of comparing disease with battle arose some years ago when the world, and more especially the taxpayer, was not convinced of the necessity for organized medical departments for armies. The comparison was good and legitimately used but since then it has been perverted. It is against this perversion, with its resulting haziness, confusion and positive errors, that I protest.

LOCAL EFFECTS OF GALL BLADDER INFECTIONS AND GALLSTONES UPON THE DIGESTIVE TRACT AND LIVER.

BY FRANK BILLINGS, M. D.

(Illinois Medical Journal, Sept., 1910.)

Infection of the gall-bladder may be either acute or chronic and may be associated with the presence of gallstones. The clinical course of gall bladder infections and cholelithiasis is quite uniform, and a careful analysis of the symptoms and thorough investigation of the physical condition will usually enable one to make a diagnosis. I have made an analysis of the conditions of sixty patients suffering from cholelithiasis to ascertain the secretions and motility of the stomach in this class of patients. Of these sixty patients, fifty suffered from cholelithiasis with cholecystitis and ten suffered from cholecystitis with cholelithiasis of the gall-bladder and common duct. Motility was disturbed in forty-five of the sixty patients during acute exacerbations of the disease as shown by vomiting. The analyses of the stomach conditions of these sixty patients would seem to indicate that the digestive power of the stomach was not disturbed by cholecystitis excepting in the acute attack or in exacerbations of the chronic disease. Constipation is the rule in cholecystitis and gallstones.

GALLSTONE DISEASE AND ITS RELATION TO INTESTINAL OBSTRUCTION.

BY JOHN B. MURPHY, M. D.

(Illinois Medical Journal, Sept., 1910.)

Obstructions of the gastro-intestinal tract by gallstones may be divided into two distinct epochs. First, that which preceded the appearance of the monograph of Courvoisier in 1890; and, second, the period from 1890 to 1910. In reviewing the statistics of abdominal surgery in 1890, after Senn had accomplished his master work in the abdomen, it seemed to me there was no other class of disease left that offered so much for surgical attack as those of the biliary tract and liver. I therefore began, in 1890, experimenting on dogs, and in 1892 perfected the button for gall bladder and intestinal anastomosis. The first case was operated on by me June 11, 1892, for an obstruction to the common duct by a large stone. The duct was surrounded by adhesions. A cholecystenterostomy was made. The patient made an uninterrupted recovery and I was able to keep track of her health for years after. The position of obstructions are very interesting. A lady 80 years of age had 22 stones in a divertuculum of the duodenum, which produced all sorts of digestive disturbances. In one patient there was an obstruction of the ileum by two stones not larger than a hazelnut, at the site of a malignant stricture. In two there were perforations of the appendix from impacted gallstones. In two others there were large conglomerate masses of choleliths in the intestine.

While a great majority of stones of large size find their way into the intestinal tract through ulceration of the gall bladder, very large stones can and have been admitted through the common duct. One of the largest stones I have ever observed was one and seven-eighths inches in length and one and one-eighth inches in diameter. It came into the duct without a colic and was well on to the ampulla of Vater at the time it was removed. Its enormous size prevented the spasm of the duct, colic, that is usually present when small stones are passed. Coprostasis forms the key stone of the arch of symptoms of intestinal obstruction.

THE LIMITATIONS OF SURGERY IN CHOLELITHIASIS.

EMIL RICE, M. D.

(Illinois Medical Journal, Sept., 1910.)

Operations, as performed at the present time, on account of cholelithisais are usually successful as far as the primary mortality is concerned. Sepsis and hemorrhage have no greater terrors for the surgeon in this field than in most other fields of surgery. Only under special difficulties does hemorrhage threaten the success of the operation, namely, in the case of patients who are severely jaundiced at the time of the operation. Sometimes after gallstone operations we undoubtedly have to deal with real arterio-mesenterial occlusion such as is likely to follow a great variety of operations or may occur without operation. Nobody who has ever seen any cases of true arterio-mesenterial occlusion will forget the surprising quantities of blackish fluid that pour out of these patients, nor is the distention of the stomach easily overlooked, if the examination is conducted at all properly.

In case of cholelithiasis, where the liver has been damaged to any extent by the chronic disease, the anesthetic is a very serious menace to the patient's life. Complete success of operations

for cholelithiasis is jeopardized from three directions, which may be shortly characterized as: (1) the stones; (2) the infection; (3) the organs which are the seat of the disease.

In summing up, we may say that the technical part of the surgery of cholelithiasis has reached a very high and satisfactory stage of development, and that the limitations of surgical success are few, and those due more to pathalogical conditions preceding the operation than to any shortcoming to the art of surgery.

A PLEA FOR A MORE VIGOROUS CAMPAIGN AGAINST THE MALARIAL FEVERS.

BY GRAHAM E. HENSON, M. D.

(New York Medical Journal, Oct. 8.)

In this most important initial step in fighting malaria, THE EDUCATION OF THE PUBLIC ON THE MOSQUITO AS THE AETIOLOGICAL FACTOR IN MALARIA, ITS HABITS, AND HOW TO PROTECT AGAINST IT, care must be taken to explain away the many popular theories of the aetiology of the disease, remembering that but a few years ago we were ourselves harboring many of these delusions. Of special interest to the American people is the work carried on during the past few years in the Panama Canal Zone. Under the splendid leadership of Col. Wm. C. Gorgas the prevalence of the malarial infections have been markedly reduced, the number of cases ocurring annually per one thousand population being reduced from 821 in 1906 to 215 in 1909, and the deaths from seven to one for each 1,000 population. The prophylactic measures, and methods to stamp out the infection, may be classed as follows: First—the education of the public that the mosquito is the aetiological factor in malaria, its habits, and how to protect against it. Second—the destruction of the mosquito in its larval and adult stages. Third—the prevention of the development of the plasmodium in man. Fourth—the entire eradication of the parasite from an infected blood stream, with isolation of the infected individual, in so far as possible.

SHAKESPEARE'S KNOWLEDGE OF MEDICINE.

BY MAX HAHN, M. D.

(New York Medical Journal, Oct. 29, 1910.)

That Shakespeare is privileged to belong to the ancient and honorable guild of medicine has been the contention of some of the most eminent practitioners of the healing art. In 1860, Dr. Bucknill, an eminent English neurologist of that time, wrote a book on the medical attainments of Shakespeare, and it goes so far as to say that the poet was far in advance of his own time, and that his knowledge of medicine was as perfect as that of the 19th century. This has been disputed. There has been a tendency for some time, especially among the laity, to crown Shakespeare with the laurels of Harvey. But it is as undoubted a fact that he was not in advance of his contemporaries in that knowledge. Even the ancients were cognizant of some "blood flow." Shakespeare's knowledge of insanity was immense. His portrayal of Ophelia and Lear has been judged perfect by the greatest alienists. The poet knew what was known in his time of surgery. "Tenting" (probing) of wounds, packing of wounds, infection of open injuries were all known to the poet. A student of Shakespeare must inevitably become a good syphilographer. That disease which no nation wished to claim for its own, was ravaging

Europe in those days. The symptoms of syphilis as given in various parts of the dramas are, baldness (French Crowns), syphilitic affection of the bones ("Hollow bones"), sciatica, laryngeal complications, destruction of the tissues of the nose, production of impotency, rheum in the eyes, bone aches, deformities, bad smell of the body, and contagiousness not only in the brothel but also by means of drinking cups. Shakespeare everywhere evinces marked knowledge of toxicology and in certain places quite clearly describes the toxic actions of drugs. Vivisection is made mention of in Cymbeline. They were under one advantage in those days. There were no old maids and womanish bachelors who made it their lifework ("which otherwise is full of emptiness") to protest against animal experimentation. The physicians of Shakespeare's plays are uniformly kind, honest, dignified and learned. Shakespeare knew of the confidence to be reposed in the physician.

QUEER MISTAKES IN INSURANCE EXAMINATIONS.

(California State Journal of Medicine.)

If the doctor is to believe all the statements made to him by applicants for life insurance, certain families have been distinguished by their strange happenings. The *British Medical Journal* selects a few of the most amusing from a large series of blunders:

"Mother died in infancy."

"Father went to bed feeling well, and the next morning woke up dead."

"Grandfather died suddenly at the age of 103. Up to this time he he bid fair to reach a ripe old age."

"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."

"Applicant has never been fatally sick."

"Father died suddenly; nothing serious."

"Applicant's brother, who was an infant, died when he was a mere child."

"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."

"Applicant's fraternal parents died when he was a child."

"Mother's last illness was caused from chronic rheumatism, but she was cured before death."

THE PRESENT STATUS OF ANTITYPHOID INOCULATION.

(The Journal of the American Medical Association, Oct. 1, 1910.)

GEORGE H. R. GOSMAN, M. D.

(Major, Medical Corps, U. S. Army, Washington, D. C.)

Antityphoid inoculation has been very thoroughly studied since 1896, when Pfeiffer did the pioneer work in it.

During the past year at the Massachusetts General Hospital, there was carried on a series of inoculations under the direction of Spooner. He employed as a test of his results, not only the diminished amount of fever among the inoculated, but also a determination of the immune substance in the blood, using the agglutination test to do so. His results were so encouraging in his first series that he called for volunteers among the nurses and ward attendants, determined to make an effort to stamp out typhoid among the hospital attendants. A large number volunteered. Spooner inoculated nearly one hundred people to January, 1910, made a careful study of their inoculations, and had not a single bad result and only a few severe reactions. Though the reactions among the nurses as a rule were

almost nothing, and the suffering and inconvenience among the majority almost *nil*, they all said they would have taken the inoculation anyway, with the hope of the immunity it held forth. This is a matter of considerable importance, because one of the things that hold people back from taking antityphoid inoculation is that they think they are going to suffer a great deal and have a very sore arm, as sometimes occurs in smallpox vaccination; but the fact that in the army we have now vaccinated over 8,500 people, is surely sufficient evidence that the procedure is harmless, and when I have shown that none of them have developed typhoid fever, while living all over the United States, even the most skeptical person ought to be convinced of the great value of these inoculations. And now the most important fact of all, in reference to this last series of cases, is that Spooner has lately written that this is the first year that no typhoid fever has originated in the Massachusetts General Hospital. Now it would seem, and I believe, that we can eradicate typhoid fever as it occurs among the nurses and attendants of all institutions. Think what a great thing that would be!

"CELESTIAL" SURGERY.

BY JOHN KNOTT, A. M., M. D., Ch. B. AND D. P. H. (Univ. Dub.); M. R. C. P. I., M. R. I. A.; etc.
(Dublin, Ireland.)

The recent awakening of the Celestial empire divides the general geographical, ethnological, and imperial interests and prophetic curiosity of this preliminary decade of the nineteenth century, with the opening up of the interior of the dark continent.

The universal experience and observation of Western physicians who have visited the Celestial empire, and given the results of their travelled enlightenment to the world, go to prove that China has always persisted in displaying, in her surgical as well as in her social and political (and various other intellectual) practices, the same unchanging routine which hopelessly excludes improvement.

The uterine speculum, the midwifery forceps, and the urethral catheter have remained unknown luxuries of surgical practice in the Celestial empire—and are, even now, to be seen only on the narrow fringe which has been contaminated by the presence of the pale-faced intruder. Small leaden bougies have, however, been in general use for the purpose of counteracting the tendency to cicatricial atresia of the urethra in the members of the semi-martyred army of eunuchs. This numerous—and highly representative—section of the Celestial community owes its existence to a special imperial privilege; which has never been accorded to more than *some* members of the imperial family, in addition to the reigning Emperor himself. The latter has long been accustomed to own, nominally at least, an attendant battalion of 3,000 eunuchs. The princes and imperial princesses were accorded the right to thirty each; the nephews and younger children of his imperial majesty to twenty; the royal cousins to ten. The representative descendants of the eight Manchu princes who aided in the original foundation of the reigning dynasty are also privileged to possess ten eunuchs each. The privileges of the position in all of these cases are so well assured, and the struggle for existence of the members of the swarming population is so great—even overwhelming in its exactions—that boys are sold by their parents, and even young married men are found to offer their own persons, for the operation of emasculation, and consequent

profession of eunuchism. No anaesthetic is used!—the imperturbable "Chinee" would not dream of taking advantage of it. The patient is bound on a structure somewhat resembling a European camp bed; his shoulders are firmly held by one assistant, while his thighs are held apart by two others. The operator grasps the root of the penis with the scrotum in the left hand, and proceeds to compress and twist them, so as to expel as much of the blood as possible. When this preliminary stage of the procedure has been effected, he asks the final question—of the parents when the patient is a boy: "Do you consent?" When the answer is in the affirmative, he instantly removes with one sweep of the knife the penis and scrotum (including, of course, the contents of the latter)—making the section as close as possible to the puboperineal surface.

The fact is worthy of passing notice, in concluding this sketch of a strangely conservative surgical system, that Mongolian medicine had anticipated the suggestion of the late Professor Brown-Sequard by untold centuries, in prescribing the testicles of rams to elderly men who were ambitious to reinforce their evanescent sexual energies. Also that the employment of mercury in syphilis had been familiarly known, and thoroughly appreciated, in those vast and remote regions of teeming humanity. Curiously enough the slant eyed Oriental is afraid to take the uncanny metal internally; so that it has been habitually utilized by application to the skin. So that even the imperturbable Mongolian may be found to inherit some therapeutic awe—of groundless origin!

VIRGINIA PHYSICIAN ON RACE SUICIDE.

(Greenville Daily News, Greenville, S. C., October 26, 1910)

PRESIDENT OF STATE MEDICAL SOCIETY STARTLES TWO HUNDRED DOCTORS WHO HEARD SENSATIONAL ADDRESS—"CONSPIRACY AGAINAT THE UNBORN."

Norfolk, Va., Oct. 25.—In one of the most sensational addresses ever heard in Norfolk, Dr. E. T. Brady of Abingdon, Va., president of the Virginia Medical Society, to-night startled 200 physicians who heard him.

"Squeamishness is never sincere and sincerity is my only excuse," said Dr. Brady. "I am aware that I am touching upon a subject unusual in a public address. If the dose seems drastic, remember that drastic measures are needed to put us in working condition.

"We must give the situation frank recognition. We are blindly following the fetish of business at the expense of fraternity.

"Even the pathetic public is recognizing the possibility of race suicide. There are exactly 350 cold blooded premeditated murders of defenseless innocents for every 600 children brought into the world. Think of it. And the large majority of these horrible crimes are perpetrated by so-called Christians and intelligent wives, who thus from their vaunted social height give an example for a doctrine of convenience and selfishness.

"Vanity, social aspirations, fashion, ignorance and fads all conspire against the unborn."

FOR TREATMENT OF INEBRIATES.

METHODS OF CURE AND TREATMENT OF INEBRIATES DISCUSSED AT INTERNATIONAL CONGRESS—STATES SHOULD CONTROL DETENTION OF DRINK VICTIMS—IS DRUNKENNESS A CRIME OR A WEAKNESS?—CARING FOR DEPRAVED CHILDREN—THE PRISON SYSTEM IN FRANCE AND ITS EFFECT ON CRIME.

(The News and Courier, October 5, 1910.)

Washington, October 4.—Public institutions for inebriates are advocated by the International Prison Congress. Experiments conducted in several countries during the last ten years have demonstrated the success of establishments of this character and the Congress at to-day's sessions placed itself on record as favoring their extension. The Congress also adopted resolutions recommending that prisoners be allowed payment for their work and that any sum of money credited to them in such manner should be available to their families in time of need.

A complete and careful investigation into the subject of caring for mentally defective children with dangerous moral tendencies is provided for in another resolution adopted.

Spirited discussion of the treatment of inebriates marked the section meeting at which the resolution adopted by the Congress was drawn.

TREATMENT OF INEBRIATES.

The opinion was expressed by J. S. Gibbons, inspector of Irish prisons, speaking for the section that it was desirable to further extend this kind of detention of inebriate criminals under State control, with a view especially to arresting the drink habit in the early stages and to the avoidance of useless and repeated sentences to imprisonment. The Congress endorsed the decision of the section without discussion.

A CRIME OR A DISEASE?

The question whether drunkenness was a crime or a disease was debated at great length at the section meeting. Edwin Mulready, of Boston, said the short sentence in jail and the treatment of the drunkard as a criminal was a failure.

The foreign delegates were the guests of the American Prison Association at a banquet to-night at the New Willard Hotel.

Prison labor in France was the subject of a lecture by M. Schramack, director of the French prison system. He said France had employed prison labor since 1789 and that only one effort had been made to do away with it. Two systems—the State use and the contract—were in vogue, he said, the tendency being toward the former.

CLEMENCY IN FRANCE.

M. Schramack declared that the number of prisoners in France had fallen from 50,000 to 25,000 during the last five years through utilization of the suspended sentence and conditional liberation. He emphasized the fact that great attention was being paid in France to the placing of delicate children in families instead of confining them in public institutions.

The National Prisoner's Aid Society was organized here to-day by a group of thirty delegates to the American Prison Association. E. F. Waitt, of Minneapolis, was elected president.

ANDERSON PHYSICIANS INDORSE ORDINANCE.

SELLING OF MILK TO BE REGULATED BY LAW SIMILAR TO LAWS OF FEDERAL GOVERNMENT.

(The State, Columbia, S. C., October, 7, 1910.)

Anderson, Oct. 5.—At the regular monthly meeting of the Anderson County Medical Society, a general discussion of the proposed ordinance regulating the milk supply of the City of Anderson was had, and the Society

went on record as heartily indorsing the ordinance.

Two or three months ago city council adopted an ordinance regulating the milk supply, and this ordinance became operative on September 1. Operation of the ordinance was suspended soon after that date in order that the local board of health might submit an ordinance less drastic, and in order that the dairymen might have more time to comply with its requirements.

Dr. Wm. C. Hamilton, the meat and milk inspector, is the author of the proposed ordinance, which will be presented by the board of health to city council next Tuesday night for consideration, The ordinance provides for the construction and maintenance of dairy houses, pastures and the marketing of the milk and is patterned after the laws of the federal government.

DISEASELESS, BUT STUPID.

PROFESSOR OF MEDICINE GIVES FORECAST CONCERNING FUTURE MAN.

(The State, Columbia, S. C., October 6, 1910.)

The man of the future will be a sane, diseaseless, sturdy, stupid creature—when science shall have robbed the world of both disease and genius. Such was the picture drawn by Dr. William G. MacCallum, professor of pathology in the Columbia University College of Physicians and Surgeons. He was speaking at the opening of the school year of the institution, and 300 students listened to him with frequent applause. His subject was "The Future of Medicine." "All diseases, except those due to accidental causes, such as burns, poisonings, cuts, etc., would be entirely eliminated," he asserted.

"In the study of diseases," said he, "we have made the most progress up to date, but in the cure of disease we have made little, with a few brilliant exceptions, including yellow fever.

"All insanity in time will be stamped out with the exception of that resulting from imprudence and intemperance, which always will exist, as they are the price of a man's personal liberty.

"It is a crime that any hereditary burdened individual or a weak-minded, should be permitted to marry and have children. I read foolish sentimental reports of the wonderful work done for such persons in schools provided for them. They marry and have children, and they marry often other weak-minded persons, and this is the flagrant crime, for the offspring almost surely will be only a burden to the State and to themselves. These vessels, spoiled in the making, should never have been let out of the institution where they are so successfully taught, or, if they are, precautions should be taken by law against their marrying."

STATE HOSPITAL SELECTS ITS SITE FOR THE NEGRO PATIENTS.

SEVERAL BUILDINGS WILL BE ERECTED AT ONCE—DETAILS OF THE TRANSFERS GIVEN LATER.

(The State, Columbia, S. C., October 8, 1910.)

The new State Hospital for the Insane will be located about six miles from Columbia on the Southern and Seaboard Air Line Railways, between the Asylum and Koon roads. The site contains 2,000 acres and is made up of several tracts of land belonging to a number of individuals, whose names have not been announced by the commission. The average price paid for the land is $25 per acre, which means an outlay of approximately, $50,000. This announcement was made yesterday, following a long session of the asylum commission.

The members of the asylum commission are: Dr. J. W. Babcock, superintendent of the State Hospital for the Insane; Dr. Robert Wilson, chairman of the State board of health, Charleston, Judge R. O. Purdy, Sumter; Leroy Springs, Lancaster; Dr. George B. Cromer, Newberry. The commission has held several hard-working sessions since the first of the year. The site in Richland County was selected out of over 50 offers made from many sections of the State. The new site is to the north of the city and is, therefore, only about five miles from the old institution.

There are several details to be worked out by the commission before the names of the owners of the several tracts making up the site are announced. The land is in the sand hills.

It was announced by the commission that the work of erecting the new buildings on the site would commence as soon as possible and rapidly pushed to completion.

Several weeks ago, Dr. Babcock. speaking for the commission, said that the new site would be first used for the more serious cases of negro patients. There will be several buildings erected. All buildings, according to members of the commission, will be erected with a view to an enlargement of the scheme.

At the last session of the legislature there was a concurrent resolution passed providing for a commission to make plans and provisions for the relief of the congested conditions at the State Hospital for the Insane. In the resolution the sum of $100,000 was named to be used in making the improvements. This sum is to be borrowed from the sinking fund commission to the credit of the State, and has already been set aside.

Before appointing the commission Gov. Ansel studied the act very carefully and came to the conclusion that its terms were very liberal and that as much money might be borrowed as would be necessary to make the improvements. He did not think that all of the money should be borrowed in one year, but from time to time as it might be needed. Half of the $100,000 named in the resolution will be required to pay for the new site. There are certain improvements being made at the old State Hospital for the Insane which will take a large amount of the remaining $50,000. This would lead to the conclusion that before the work of improvement is completed much more than $100,000 will be required. The work of improvement will be made gradually and may require several years.

A STRONG COMMISSION.

The commission named by Gov. Ansel to take charge of the improvements of the State Hospital for the Insane is considered one of the very strongest bodies ever appointed in this State. The members are all strong men in their different professions. They have spent much time in working out the scheme of improvement and have made the very best selection possible.

The new site may be in 20 years the permanent home of the State Hospital for the Insane. Several days ago Dr. Babcock gave the opinion that the institution would be eventually driven from Columbia on account of increasing population.

DR. JESSE CLEVELAND HURT.

TRAIN KILLS HORSE, DEMOLISHES BUGGY AND INJURES OCCUPANT.

(The News and Courier, Charleston, S. C., October 13, 1910.)

Spartanburg, October 12.—Special: The escape from instant death this morning of Dr. Jesse Cleveland was

almost miraculous. He was driving across the tracks of Southern Railway on Forest Street, when north-bound train No. 42, travelling at a pretty lively clip, struck the vehicle, completely demolishing it, throwing Dr. Cleveland, the sole occupant, several feet from the track and injuring the horse to such an extent that it was necessary to kill it.

Houses are built close to the track alongside the sharp curve around which the train was approaching, and it was not possible to see very far up the track. The engine struck the buggy at the front wheels, the horse running away on one side of the track while the buggy and Dr. Cleveland were knocked on the other. The injuries to Dr. Cleveland are very painful, but it is not thought that they are serious. There is a big cut in his head, and unless complications set in, the physicians think that he will be all right in a short while.

Dr. George R. Dean, who attended him, said to-night that he could not tell how badly he was injured.

Dr. Cleveland is one of the most prominent citizens in Spartanburg. He is president of the Tucapau Cotton Mills, and is connected with a number of other leading business enterprises.

DR. W. J. BURDELL APPOINTED MEDICAL SECRETARY OF SOUTHERN DIVISION.

(The News and Courier, October 10, 1910.)

It was announced yesterday by Mr. Virgil C. Dibble, of this city, counsellor of the Southern division of the Esperanto Association of North America, that Dr. W. J. Burdell, of Lugoff, who is well known as a member of the State board of health, had been appointed medical secretary for the Southern division of the Esperanto Association. Dr. Burdell is an enthusiastic Esperantist, a member of the Universal Esperanto Physicians Association and a sustaining member of the Esperanto Association of North America. His acceptance of the office of medical secretary is expected to strengthen greatly the cause of Esperanto with Southern physicians.

CONDUCT CLINIC ON PELLAGRA.

TWO IMPORTANT CONFERENCES TO BE HELD THIS WEEK.

(The State, Columbia, S. C., November 3.)

Dr. C. H. Lavinder, past assistant surgeon of the United States public health and marine hospital service, will arrive in Columbia on Monday from Washington. On Wednesday and Thursday afternoons he will conduct a clinic on pellagra at the State Hospital for the Insane, under the auspices of the State board of health. This announcement was made yesterday by Dr. J. W. Babcock, superintendent of the State Hospital for the Insane, as a result of a letter received from Dr. Lavinder.

All of the physicians of the State interested in the study of pellagra are invited to attend the clinic. An investigation of the disease will be held. The clinic will be held at 3 o'clock each afternoon. The cases of pellagra at the State Hospital for the Insane will be used for the investigation.

Dr. Lavinder recently returned from Italy, where he has spent four months in the study of the disease. He was for a time stationed at Columbia. The pellagra hospital at the State Hospital for the Insane is under the direction of the government and can only be used by physicians in this State.

It is thought that as a result of the clinic an invitation will be extended to the next national pellagra conference to meet in Columbia.

DEATH OF DR. F. M. MONROE.

SOLDIER, PHYSICIAN, CITIZEN, BENEFACTOR OF MANKIND—AGED 71.

(The News and Courier, October, 27, 1910.)

Latta, October 26.—Special: Dr. F. M. Monroe, one of Latta's oldest and most respected citizens, died at his home here Friday morning at 8 o'clock. For a number of years he has been in declining health and his death came as no surprise to his family and friends. He gave up the practice of medicine and active life about five years ago, and spent the last years of his life at home, seldom coming the short distance of one-half mile to town. He has had several serious spells of ill health in these last few years, in which his life almost hung on a thread, but he bravely survived them all. He was confined to his bed about two weeks ago, and being worn out in body and strength at the age of 71 he expressed the desire that he had rather die than live on a few years in declining health.

His body was laid to rest at the cemetery, Saturday evening at 3 o'clock, in the presence of his family and friends, with only a short burial service, according to his request.

Dr. Monroe was born on the 25th of January, 1839. At the age of 15 he attended the State Military School, in Columbia, only a short time, and then went to Yorkville to be with his older brother, J. C. Monroe. He entered the Coward-Jenkins Millitary School there and remained two years. Leaving Yorkville he went to Laurinburg, N. C., where he attended the high school, studying Latin and French, preparatory for the study of medicine. A few years later he entered a medical college in New York, where he studied medicine two years, leaving there during the John Brown raid, when all Southerners left New York. From there he went to Charleston, and entering the Charleston Medical College, he completed his study of medicine in 1860. The following year he practiced at Marion. He enlisted in the army at the outbreak of the war the same year, but was taken sick and did not go with his regiment. About a year later he enlisted in the army and went to Arkansas. He was in Price's army. On their march, through Missouri being engaged in the battles of Fort Smith, Iron Mountain and others not known to the writer. He was aide-de-camp, ranking as captain. At the close of the war he returned home and moved from Marion to this vicinity, living where Sardis Church now stands and began practicing. In the year 1874 he moved to where he was living at the time of his death. He was engaged in the mercantile business here, and also in farming, but the greater part of his time was spent in his profession.

Dr. Monroe has left his mark on so many of the things that stand for good that he can truly be said to have a monument stamped in the progress of his community. In the town's early days he was at the head of every religious, social and educational movement that had for its purpose the benefiting of mankind. He was the promoter and financier of the first church in town, giving freely of his means and time. He has left his family a home surrounded by acres of valuable land, showing his thoughtfulness as a loving husband and father.

But the greatest remembrance the people have of him is his service to mankind in the practice of his profession. He used it not so much for his own personal gain, but that suffering humanity might be relieved of some of the wages of sin. He was for a long time the only physician in his community and many was the time he disobeyed the laws of nature in sleep and rest that he might be of service to those afflicted. He practiced for both rich and poor with the same untiring effort, conscious only of the

fact that he was helping his fellow-man. A host of friends extend their sympathy to the bereaved family.

Dr. Monroe is survived by a wife, who was Miss Caroline Lewis, and several children as follows: Mrs. J. G. Baker, of Latta; Mrs. S. W. Epps, of Kingstree; Mr. M. M. Monroe, a prominent merchant here, and Misses Bettie, Danie and Mary Monroe, who were living with him.

DOCTORS DISCUSS PELLAGRA.

MUCH MORE HOPEFUL VIEWS ARE HELD THAN WERE EXPRESSED AT THE LAST CONFERENCE.

(The State, Columbia, S. C., September 23, 1910.)

The doctors in attendance at the pellagra clinic in the amusement hall at the State Hospital yesterday were called to order promptly at 3 o'clock by State Health Officer C. F. Williams, who stated that the meeting was held at this time because of the continued interest in the subject on the part of the medical profession. After announcing that the meeting was to be altogether informal and extending a cordial invitation to all present to take part in the discussion, Dr. Williams introduced Dr. C. F. Lavinder of the United States public health and marine hospital service, who has recently returned from Italy where he spent four months studying pellagra. Dr. Lavinder said that the Italian and American disease are one and the same, but that our type is much more severe. The Italians are for the most part strongly committed to the theory that spoiled corn is the cause of the disease. They treat the disease along the same lines as is done in this country, some form of arsenic being fairly commonly used. In Dr. Lavinder's opinion, the disease is very hard to diagnose without the presence of the skin symptoms. He also deplored the gloomy views taken of pellagra by the public generally and thought that physicians should endeavor to allay the unjustifiable pessimism that prevails about the disease.

Dr. Lavinder said that so long as the cause of the disease remained unknown, it was impossible to make definite denial as to communicability, but all known facts were opposed to the contagiousness of the disease. In Italy such a view is never entertained. In Italy pellagrous hospital nurses and attendants have never been known to develop the disease, although in intimate daily contact for years with all types of pellagrins in large numbers.

Dr. Young, of Rock Hill, discussed the question of the relation between amebas and pellagra and strongly suggested a casual role for these intestinal parasites.

Interesting cases were reported and remarks made by Drs. Brasington, Furman, Lancaster, Maddox, Watson, Babcock, Williams and others.

On the whole, a very hopeful view seems to be entertained by most of the speakers as to the curability of pellagra—in marked contrast to some of the views held a year ago at the conference held here at that time.

About a dozen cases of pellagra were shown in the hall and several others in more advanced stages in the wards.

The impression seemed to prevail among the doctors present that an invitation should be extended to the National Conference of Pellagra to hold its next session in Columbia next June.

Another clinic will be held this afternoon at 3 o'clock at the State Hospital for the Insane.

About 50 physicians from all parts of the State were in attendance. Among those who registered were:

A. S. Todd, Manning; Theodore Maddox, Union; S. T. D. Lancaster, Pauline; Wm. H. Delk, Greenville; J. D. Connor, Smoaks; F .B. Gunter,

Batesburg; Wade Woodward, North Augusta; J. C. Folk, Brunson; T. M. DuBose, Columbia; S. E. Harmon, Columbia; F. W. P. Butler, Columbia; L. H. Irby, Woodruff; E. H. Wyman, Estill; A. M. Redfern, Clemson College; John Lunney, Darlington; G. A. Hennies, Charleston; Ernest Cooper, Columbia; J. J. Watson, Coulmbia; J. B. Selzter, Newberry; J. H. Pratt, Morrisville; W. J. Burdell, Lugoff; F. G. James, Greer; R. W. Gibbes, Columbia; F. A. Smith, Mullins; J. P. Ott, Columbia; W. G. Houseal, Newberry; R. A. Lancaster, Columbia; J. A. Martin, Spartanburg; W. S. Jennings, Orangeburg; J. W. Tarrant, Lynchburg; T. B. Duckett, Fountain Inn; Davis Furman, Greenville; T. G. Croft, Aiken; W. P. Timmerman, Batesburg; L. C. Brooker, Sewanee; E. B. Saunders, Columbia; J. L., Thompson, Columbia; B. F. Sloan, Walhalla; S. F. Brasington, Camden; A. M. Brailsford, Mullins; J. W. Payne, Greenwood; S. G. Miller, Chester; J. W. Page, Anderson; C. D. Rollins, Lake City.

A PHYSIOLOGIC BINDER

(The Medical Brief, Aug. 1910.)

The latest medical concept of ptosis is that of a functional habitus, of which the various organic prolapses, such as gastroptosis, enteroptosis, nephroptosis, and the rest are end results. This broad functional concept gives an added interest and value to those mechanical appliances which, based on physiological principles, seek to correct and hold in check the vicious enteroptotic habit, thus preventing functional compromise of the organs concerned, or, if already compromised, restoring them to a favorable position for functional rehabiliation. The truth is, with the modern scientific physician only that form of binder will survive which measures up to this concept of abdominal ptosis.

It is because the Storm binder has forestalled this concept and fulfills its physiologic demands that it ranks as a prime favorite with both physicians and surgeons—for in post-operative cases, hernia, pregnancy and the like, the underlying principle is the same, and the details of the binder are such as to readily adjust themselves to the several states.

Even in the matter of material the various conditions that one encounters are amply provided for. The linen mesh (the most expensive $10 binder) is firm, close-woven, yet with a "porosknit" effect, and is decidedly the best where it can borne. But, as every physician knows, there are among these ptotic patients a large percentage of nervous, delicate individuals who cannot tolerate the irritation of the linen mesh, and for such the $8.00 silk binder is just the thing. It must not be forgotten, moreover, that one finds such patients among the less well-to-do, whose idiosyncrasies must nevertheless be considered; for these the maker has put up a half-silk binder for $6.00 which meets the situation nicely. Then there is the cheaper $5.00 binder for folks who cannot afford more, which has all the essential efficacy of the more expensive makes.

With such physiologic qualities and such a convenient range of accommodation, the Storm binder deserves the popularity it enjoys.

THE HYPODERMATIC TABLET AS AN EMERGENCY AGENT.

If there is one class of therapeutic agents which more than another should be chosen with discretion and judgment, the hypodermatic tablet represents that class. When he administers

a preparation hypodermatically the physician wants prompt action, and he wants to be certain that he is going to get it. To have that assurance he must use a tablet that is active, that has definite strength, that dissolves promptly and wholly. Cheap tablets, poorly made tablets, tablets concerning which there is the slightest doubt as to medicinal quality, may well be left alone. And there is no need to err in the matter of selection. Hypodermatic tablets of the better sort are easily obtainable. Perhaps the brand which comes most readily to mind is the brand which is exploited so extensively to physicians under the familiar caption of "Five Seconds by the Watch." The makers, it is hardly necessary to add, are Messrs. Parke, Davis & Co., who guarantee their hypodermatic tablets unequivocally as to purity, solubility, activity and stability.

AN UNCONVENTIONAL COUGH SYRUP.

There are "cough syrups" without end. Some of them, it is needless to say, have little or no therapeutic value. Conversely, there are some that no physician need hesitate to prescribe. One of these—Syrup Cocillana Compound (P. D. & Co.)—is so exceptional in many particulars as to be worthy of special mention just now, when coughs are so plentifully in evidence. By its name no one would recognize it as a preparation for "coughs" and "colds," and this, in connection with its general efficiency, constitutes one of its chief claims to distinction. It is a product which the layman knows nothing about. It does not encourage counter-prescription or self-medication. It was designed especially with reference to the needs of the prescriptionist.

The formula of Syrup Cocillana Compound, which of course is plainly printed on the label, is quite unusual. Let us briefly consider its components: Euphorbia pilulifera—serviceable in the treatment of chronic bronchitis and emphysema; wild lettuce—a mild and harmless narcotic, useful in spasmodic and irritable coughs; cocillana—valuable expectorant, tonic and laxative, exerts an influence on the respiratory organs similar to that of ipecac; syrup squill compound—serviceable in subacute or chronic bronchitis, as an expectorant, and as an emetic in croup; cascarin—the bitter glucoside of cascara sagrada, useful for its laxative action; heroin hydrochloride—a derivative of morphine and extensively prescribed in the treatment of cough, especially of bronchial origin; menthol—stimulant, refrigerant, carminative and antiseptic, serviceable in coughs of pharyngeal origin.

Syrup Cocillana Compound would seem to be worthy of extensive prescription.

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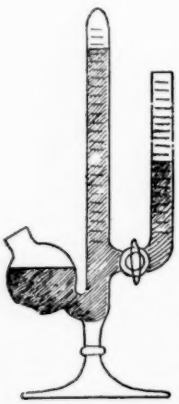

WATCH THE
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